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CHICAGO ALDERMEN RIDE IN STATE

**Headed by the Mayor They Attend a Demonstration of the Automobile's Capacity—
Local Users Desire More Liberty and Show the City Fathers How Easily Their
Machines are Controlled—Mayor and Other Officials Repeatedly Disregard
City Ordinances While the Police Smile Approvingly.**

Mayor Harrison, of Chicago, had the experience of his life on Saturday last. Every man who attended the demonstration at Douglas park agreed that he is game to the backbone.

But the police failed to do their duty. Had they been as particular as they have been with some other scorchers the mayor and a great many members of the council would have been before a justice of the peace Monday morning for excessive speed on the highways. Furthermore, had anything happened to upset the calculations of the operators the city might have been without a mayor and the county without a treasurer, for the steam vehicle people certainly did do their level best to give the pair a taste of the real thing in the line of speed.

It all came about through a proposal

to allow automobilists to travel at a little faster speed than the law permits at present. A few weeks ago Motor Age took the matter up with the mayor. That gentleman appointed a committee to look into it and of this committee Alderman Scully, one of the most ardent advocates of greater speed, was appointed chairman.

The matter was laid before the automobile club with a request that it arrange for a demonstration. Saturday was the time selected and on that day, at two o'clock, vehicles commenced to arrive at the court house to carry the city fathers to the scene of action. Half an hour later there were 50 machines in line ranging from the mammoth Hewitt bus down to the diminutive Knox.

With creditable consideration of the



A BUNCH OF CELEBRITIES.

Showing Alderman Scully (standing), Mayor Harrison, Will Delafontaine and County Treasurer Gunther, in the order named.

CHICAGO ALDERMEN RIDE IN STATE.

ably have died rather than make an outward sign.

On Garfield boulevard, south of Lake street, an eighth of a mile had been measured off for demonstrations of various speeds. These were all made by steam vehicles. First came a couple of Mobiles in which were Alderman Scully and the mayor and County Treasurer Gunther, with Will Delafontaine as guide, philosopher and friend.

The first demonstration was made at



Mayor Harrison and Alderman Scully.

six miles an hour. The faces of the city officials showed their contempt for any such alleged speed. Then came 8, 10, 15, 20, 25 and 30 miles. Alderman Gunther seemed to be enjoying it all the time and waved his hat at the conclusion of each burst of speed, apparently as happy as a 10-year-old. The mayor was as imperturbable as if attending the most solemn function. Even at the highest speed Scully's vehicle could attain he seemed as much at home as if he had been doing that sort of thing all his life. He was a martyr to the cause and determined to die game. People do say that when the vehicle finally headed for the beer wagon he appeared much relieved, but

the cause is stated to have been the prospect of relief from the heat rather than fear of the speed.

Then Mr. Hibbard gave an exhibition of the ease with which a vehicle may be stopped. It is said that his Locomobile was traveling at 35 miles an hour, but it was stopped inside of 100 feet. For the first time the spectators cheered.

To demonstrate the ease of steering machines, a lot of barrels having been set up in the road, Delafontaine proceeded to make rings around them, traveling backward and forward with equal facility.

Although gasoline vehicles were on hand without stint no attempt was made to show what they could do. The management probably concluded that the officials would be satisfied with the speedy performances of the steam rigs.

Under the shade of the trees, 100 yards from the scene of the trials, refreshments were served for the whole party. The sun was hot and the spectators were dry, so that there was no occasion to carry many fragments back to town. The park commissioners put on an additional man Sunday to clear away the debris sizes of their guests a majority of the makers represented had sent along their smallest operators, so that the fears of the promoters that it would not be possible to furnish carrying capacity for all was overcome. There were about 80 guests, including a large majority of the aldermen, park commissioners and other officials.

Three-quarters of an hour after the appointed time the procession started, going by way of Randolph street to State, to Jackson, to Ashland avenue, to Washington boulevard and thence to Garfield park. The speed was kept well within bounds by everyone but Alderman Scully, who, with the mayor, headed the line and turned back at intervals to review the procession. These movements were followed by bursts of speed, to regain the front of the line, which would have made a park commissioner's hair stand on end and which, so people said, accounted for considerable uneasiness on the part of the city's executive, though he would prob-

CLUB NOTES

before the Sunday school picnics commenced to arrive.

From a practical standpoint the object of the excursion seems to have been achieved. Alderman Scully, as chairman of the speed committee, will introduce an ordinance, increasing the legal limit of speed to 12 miles an hour. The mayor has expressed the belief that a speed of a dozen miles is safe and reasonable. Many of the aldermen in attendance expressed a similar opinion and there is hardly a doubt that the new measure will be adopted.

Should this occur it will, of course, have a beneficial effect in other parts of the state where the Chicago regulations will

be considered the proper thing to follow. Eventually, too, the influence of the measure will be felt in the state legislature, where a law similar to that adopted in New York state will certainly be introduced sooner or later.

Taking one consideration with another, Saturday's demonstration must be considered a success. There were 48 vehicles in line, as follows: Mobiles, 8; Locomobiles, 9; Milwaukees, 2; Foster, 1; Reading, 1; Haynes-Appersons, 5; Knox, 1; Wintons, 2; Olds, 2; Hydrocars, 3; De Dion, 1; Freedman, 1; National Electrics, 6; Woods, 2; Electric Vehicle, 2; Coey, 1; Hewitt-Lindstrom, 1.



CLUB NOTES, TOURS AND RACES

Boston, June 29.—At the invitation of the committee of the New England Automobile Club, appointed to bring about the amalgamation of the two local clubs, the members of the committee from the Massachusetts Automobile Club were entertained last evening. The committee from the New England club were George McQuestion, secretary, and Messrs. Lee and Howard; committee from the Massachusetts club, L. E. Knott, secretary, Dr. Joseph Steadman, and Ernest L. Rueter. At the suggestion of the New England members, it was unanimously decided that it was for the best interests of both the clubs for them to amalgamate, each to hold a special meeting on Tuesday, July 2, to discuss the matter more fully. The New England club will hold its meet-

ing at its Brookline club house, while the Massachusetts club will hold its meeting at the Hotel Westminster.

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New York, June 30.—The Board of Governors of the Automobile Club of America held a postponed meeting on Wednesday, at which it was determined to call a special meeting of the club on July 17 to consider a scheme for an affiliation of the 25 recognized automobile clubs now existing in this country, of which the A. C. A. is the pioneer.

Fifteen new members were elected. Several of them are prominent in the trade and include P. H. Deming, of the White Sewing Machine Co., and President A. Schwartzbach and General Manager

CLUB NOTES

Leon Schermerhorn, of the Steam Vehicle Co. of America.

At the special meeting, July 17, some changes in the by-laws will be considered relating to making the secretary's office a salaried one.

There will be no more regular club runs until the autumn, though Secretary Butler is looking up the best routes to Elkwood Park, Long Branch, where the first race meet under A. C. A. sanction will be run. The events will be:

Steam vehicles, five miles, to be driven by owner; obstacle race, open to amateurs only; steam vehicles, five miles, professional drivers; motor bicycles and tricycles, ten miles, amateurs only; electric vehicles, five miles, amateurs; four-wheeled gasoline vehicles, ten miles, amateurs; same, professionals.

A. C. Bostwick will give his new 35 horsepower Winton racer its first competitive trial. Dr. Barusch and Jefferson Seligman are residents of Long Branch and will probably be seen in the races.

SHATTUCK IN FRANCE

A dispatch to the New York Herald says that R. A. Shattuck, president, and J. Dunbar Wright, vice president of the Automobile Club of America, have just returned to Paris from a tour in Europe. Leaving this capital they went direct to Geneva, 806 miles, thence to Berne, 85 miles, then to Basle, 70 miles, from Basle to Strasburg, 71 miles, and from the last named point to Paris, 230 miles, a total of 762 miles, being accomplished in 12 days.

Barring five rainy days out of 12 everything went well. They intended to go about 150 miles out on the Paris-Berlin route to see the racers pass, then proceed for a 10-days trip to Brittany.

GOOD TIME ON LONG ISLAND

Garden City, L. I., June 26.—Some of the fastest time ever made by an automobile was shown yesterday by the French machine of W. L. Stow, of the Meadowbrook Hunt Club, who, in company of Herbert King, of the Lakewood Polo club, made a run of 14 miles from Port Wash-

ington to the Garden City Hotel, in a trifle over 28 minutes. The run was the result of a wager and commenced from the Larchmont Yacht club, on Long Island Sound, where both Mr. King and Mr. Stow were during the morning.

TOUR IN CALIFORNIA

Los Angeles, Cal., June 28.—L. L. Whitman and W. G. Hansen of Pasadena, have arrived here on their way from a round trip to the Yosemite Valley in an automobile. They had been absent just two weeks, and in addition to a three-days visit in the valley, they saw much of the southern part of the state, the distance traveled being about 1,100 miles. Mr. Whitman is an eastern tourist who came here three months ago from New York, bringing with him the machine, a De Dion-Bouton gasoline motorette of three and one-half horse-power.

They left Pasadena on the morning of June 8 for Yosemite via Mojave, Antelope Valley, Teton Pass, Bakersfield, Fresno and Fresno Flats to Yosemite, where they arrived Thursday, June 13. They stayed there until last Sunday and came out via Raymond, and then went across the San Joaquin Valley and over the Coast Range Mountains to Salinas, Monterey county. From there they came down the Salinas Valley to San Luis Obispo, Santa Barbara and Ventura. Friday night was spent at Newberry Park, about 53 miles northwest of this city.

Mr. Whitman says the trip was delightful, the only accidents on the road being a broken spring and a punctured tire. The distance made was from 75 to 120 miles per day.

ENCOURAGE USE OF ALCOHOL

An automobile race from Paris to Braille, 127 kilometers, will take place on July 7 and is reserved to vehicles driven by alcohol only. There are four classes, above 650 kilos, from 400 to 650, from 250 to 400, and below 250 kilos. Prizes aggregating 1,100 francs will be given by Le Velo. There will also be a kilometer race for vehicles having finished in the road race.

CONSTRUCTION OF A BICYCLE MOTOR

Second Article of the Series—Details of the Crank Case, Crank Cover, Gear Box, Fly-Wheels and Shafts, Connecting Rod and Gear Box Cover.

Figure 3 shows a side and end elevation of the crank chamber, a plan or top view of same complete and a side and end elevation of the gear box cover. The crank chamber cover and bearing plate is shown in position in these three views. The lugs, through which pass the four $\frac{3}{8}$ -inch bolts which secure the cover to the chamber, should be made the entire width of the chamber as shown. Do not cut off short and use tapped holes with cap screws in these short lugs, as is frequently done, if a tight fitting cover is expected.

Four top holes for $\frac{3}{8}$ -inch studs are lo-

cated in the top face of the chamber for holding the cylinder in position on the same. The lugs for these studs should extend as far down as possible, that is to the inner radius of the crank chamber, so as to get the benefit of as much thread as possible. The opening in the side of the crank chamber which receives the cover plate must be bored very carefully and the hub at the opposite side of the chamber bored at the same time. After this the top face should be machined and the hole in same bored to the figures given on the drawing.

The cover plate hub should first be

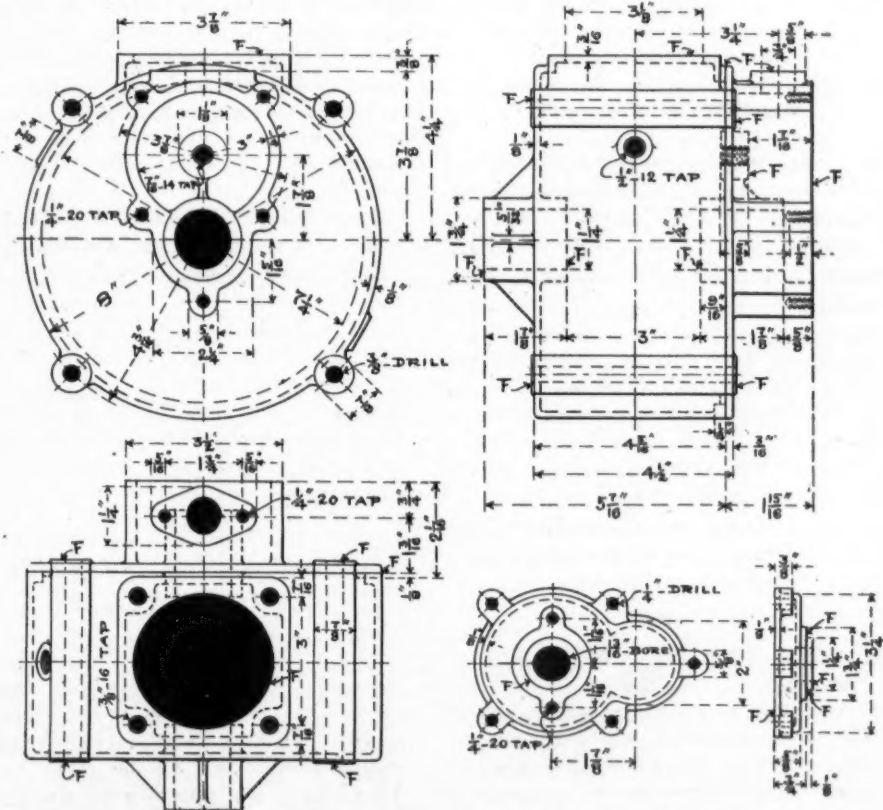


FIG. 3. CRANK CHAMBER AND GEAR BOX COVER.
One of each, aluminum.

CONSTRUCTION OF BICYCLE MOTOR.

bored and then the cover plate put on a mandrel and finished in the lathe. The facing on top of gear box casing or cover plate requires to be finished and the hole

stead of pure aluminum castings. Figure 4 shows a side and end elevation of the bushings for the fly wheel shafts. They are of phosphor bronze, require to

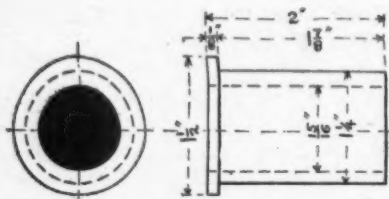


Fig. 4. Bushings.
Two, phosphor bronze.

shown in same bored to the dimensions given.

The machining of the gear box cover is so simple that no explanation is considered necessary. After the machine work is completed on these parts, all drill and tap holes should be located and put in as shown on drawing.

It may be advisable to mention, before going further, that all places on castings, required to be machined, are marked or indicated on the drawings by a capital letter F. Allowance must be made on all patterns accordingly.

The castings for these parts shown in figure 3 may be of aluminum. The writer would suggest the use of nickel-aluminum or an alloy of 10 per cent copper, 20 per cent tin, and 70 per cent aluminum, in-

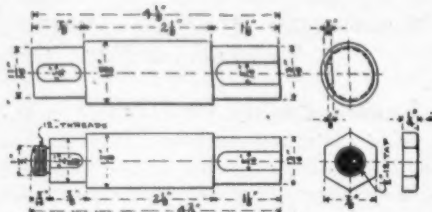


Fig. 6. Fly wheel shafts.
One each, tool steel.

be finished all over, and should be made a good, snug fit in the hubs of the crank chamber.

Figure 5 is a side and end view of one of the fly wheels, showing the method of fastening the shafts in same. These fly wheels should be made of a high grade cast iron. The shafts have key ways and square keys as shown. They are to be made a nice fit in the holes in the hubs of the fly wheels; the keys should be fitted slightly taper as to make a driving fit, and the bearing, and shoulder at the other end of shafts, finished to size after the shafts are fitted and fastened in place.

A center drill should be used in the ends of shafts as shown, so as to finish the fly wheels and bearings after fitting

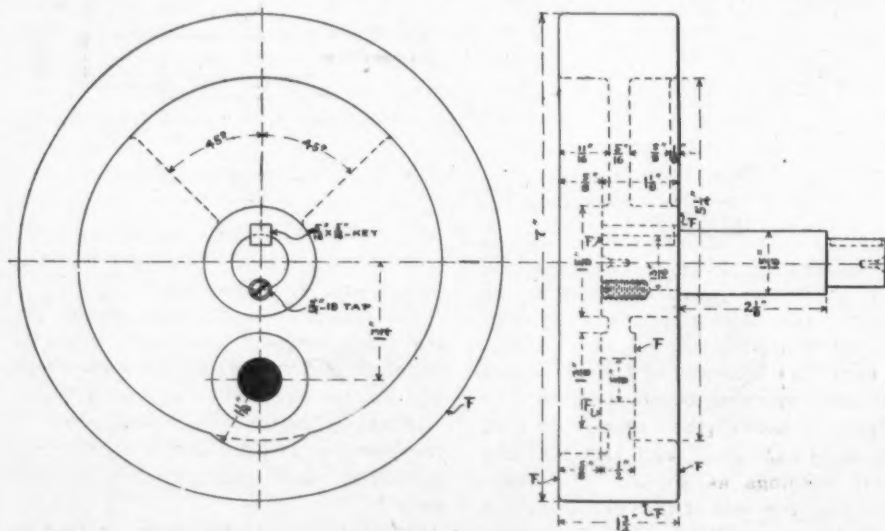


FIG. 5 FLY WHEEL.
Two, cast iron.

CONSTRUCTION OF BICYCLE MOTOR.

shafts in wheels. A 5-16-18 tap hole should be located as shown in drawing opposite the key, and a 5-16-18 headless set screw used and made a tight tapping fit. After this is done the set screw should be sweated in, by means of a little solder and a Bunsen burner or plumber's torch. This will effectually prevent the fly wheels from working loose if properly done.

Figure 6 shows the two shafts in detail, one for the pulley or driving side of the motor and the other for the gear box

as to prevent any possibility of the bushing turning. These bushings, however, should be made driving fits.

Figure 8 gives the details of the sleeve which holds the fly wheels together and also forms the crank pin, and the wrist pin which connects the piston and connecting rod. These are both of tool steel and should be hardened. The shoulders at the ends of the sleeve are left slightly shorter than the length of the small hubs in the fly wheel so as to make a clamping fit, when the fly wheels are connected,

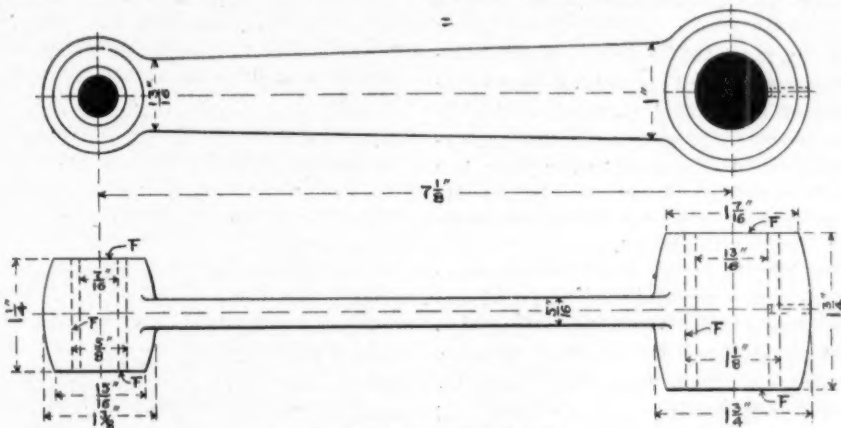


FIG. 7. CONNECTING ROD.

One, cast steel, phosphor bronze bushings.

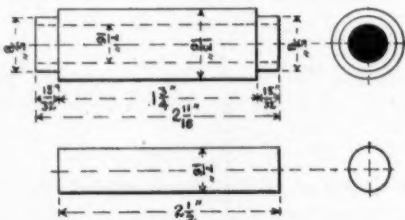


Fig. 8. Sleeve and wrist pin.

One each, tool steel, hardened.

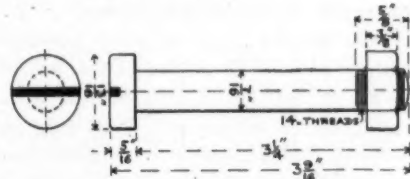


Fig. 9. Sleeve bolt.

One, steel.

side of the same. The lock nut which is used to hold the pinion on the end of the shaft on the last mentioned side of the motor is also shown in this view. The keys which are used for the driving pulley and the pinion are of $\frac{1}{4}$ -inch square steel and require to be nicely fitted.

Figure 7 shows the connecting rod. This is of cast steel, and has phosphor bronze bushings as shown. The bushing in the large end of the connecting rod should have a small brass pin driven into it, but must not quite reach the sleeve, so

with the sleeve in place, by means of the bolt and nut shown in figure 9, which should also be of tool steel.

The details of the cylinder, piston, piston rings, cylinder head and explosion chamber, and valves and valve chambers, will be the subject of the next article.

Errata:—The dimension, 14%, given in the previous article, should read, "from bottom of crank chamber to top of cylinder."

"Machinery" on last page should be "machining."

FROM PARIS TO BERLIN

**Falls to the Lot of a French Automobilst to Entwine the Flags of Two Nations
After 30 Years of Hatred—Fournier Repeats his Paris-Bordeaux Victory—
Extraordinary Incidents Connected with the Event.**

From every conceivable standpoint the Paris to Berlin race, which started last Thursday and finished Saturday, was the greatest event of its kind in the history of the automobile. It stirred the people from the president of France to the humblest peasant. It threatens to be the cause of no end of political strife. It was the cause of greater discussion, argument, good and bad feeling than has ever occurred over any event in the line of sport ever recorded in France—perhaps, even in the world.

The interest in the event was international—it was world-wide. The newspapers of the entire world have been discussing the event for the last 60 days. No wonder, then, that the excitable French people were at their wits' end when the tourist division whetted their appetites for the more speedy division to follow.

For, be it understood, there were two divisions of the event. The tourists' object was to maintain a good average rather than to reach Berlin in the shortest possible time—something on the principle of the endurance test to be held in this country in September—while the one object of the racers was to cover the ground in the shortest possible time.

The race was divided into three stages. The first day the men rode to Aix-la-Chapelle, 283 miles; the second day to Hanover, 270 miles, and the third to Berlin, 184 miles.

The last stage is particularly dangerous on account of rocky and narrow roads and swarms of peasants who will make way for nobody. As in Paris, the autos were to slow down to eight miles an hour in all towns and villages.

A curious fact is that the rule of the road alters at Troyes only, where it was

necessary to keep to the left. At all other points the machines kept to the right.



As a result of the race Fournier is, to-day, the hero of France. This is the same Fournier who came to this country a number of times as a racing cyclist. Like many another speedy man of the days of the cycle's great popularity he has since shown his grit by his extraordinary control of pacing machines and now the automobile.

Two Americans were entered in the event, these being Foxhall Keene, and an unknown driver named Dannat. The last-named withdrew before the start. Keene was thrown from his machine and disabled the second day.

There were two other withdrawals of importance before the race commenced. DeMester, who is one of the best known among the entrants, broke his collar bone and Barras, who has previously won fame, ran into a tree and so damaged his vehicle that it could not be repaired in time for the contest.



In addition to the prizes offered by the Automobile Club of France there were prizes given by the president of France, the king of Belgium, the grand duke of Luxembourg, the city of Hanover and the German emperor. Great, indeed, was the influence of the event. For the first time in 30 years the French and the German flags hung side by side in many towns. Thirty years before, on the very spot from which the racers started, occurred a desperate struggle between the men of the two nations today linked together by this extraordinary event.

On Monday the customs officials were busy checking and stamping the cars to take part in the big race so that there

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might be no trouble on their re-entry into France. The automobile club deposited with the Belgian government, as a guarantee that all the vehicles would be taken out of Belgian territory, nearly a million francs. The Belgian law requires a deposit of one-twelfth of the value of every machine.

The entries for the contest consisted of 53 heavy machines, 63 of the middle class, 21 voiturettes and 16 motor cycles.

The race started from Fort Champigny, 12 miles from Paris. It would have been impossible to have started the machines at speed from the city if, indeed, it had been possible to start them at all without serious accidents.

It was a weird scene early in the morning beneath Fort Champigny when the racing automobiles began gathering, soon after 2 o'clock, at the cross roads, where they were marshalled into line at the roadside. Each machine came up at a good rate of speed and then took up its place in the line. The racers waited until half-past three, when the starter gave the word "No 1, start." No. 1 was M. Huet, who dashed away two minutes ahead of M. Girand. Arrangements had been made that the automobiles leave at two-minute intervals. Owing to the number of competitors the start thus lasted about four hours.

Foxhall Keene arrived at Champigny on a gray, lanky car, which raced for the first time. Mr. Keene started about 8 o'clock as his car was numbered 143.

Champigny, nestling in a corner of the Bois de Vincennes, never had such a night in all its history, which, nevertheless, extends back to medieval tournaments, when the Bois was similarly the field for contests and sports. All the main streets were brilliantly lighted and strung with banners and gay-colored streamers.

From midnight on during the early morning hours a stream of bicycles and automobiles marked the road. The cross-roads of Champigny, where hundreds of bicycles and automobiles were assembled, were illuminated with Chinese lanterns. At the starting place at least 2,000 enthusiasts had gathered, many being scattered along the road toward Berlin.

There were about 30 persons who had entered who did not start. Many cheers were given as the automobiles made their departure. There was only one lady competitor, a French woman named Gast, who was attired in a smartly made water proof costume.

The stewards stopped M. Degrais because of some fault in his machine, which raised so much dust that it would have been impossible for succeeding competitors to see the road. How the stewards discovered that his machine raised more dust than the others was more than the spectators could tell.

There were some notable instances of careful preparation for the contest. One firm of motor-car builders had a staff of 77 mechanics on the ground to inspect its cars before they started. A firm of oil men distributed 1,300 gallons of gasoline at various points along the route.

The inhabitants of Aix-la-Chapelle and the neighborhood celebrated the race as a great fete. Many thousands assembled at the arrival post long before the earliest went to the country to meet the competitors. Stands and triumphal arches had been erected and military bands entertained the people who were awaiting the arrival of the racers. It began to be feared that the course could not be cleared when the cars should come.

Almost at the stroke of noon a cloud of dust was seen at the top of the hill to the eastward. Then a car was seen rushing down at a speed far exceeding that of an ordinary express train. Two minutes and 20 seconds later the driver, who was smothered with dust and could not be recognized, alighted quickly to sign the register. The rider was Fournier, the winner of the Paris-Bordeaux race, who in a Mors car had covered 282½ miles in 8 hours and 20 minutes. He was enthusiastically received and the military band played the *Marseillaise*.

Fournier was excited. He said that the crowds which lined the road during the last 40 miles was so great that he constantly feared a fatal accident.

Twenty other cars arrived within the ensuing hour and all the drivers were

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cheered while the band played the Marseillaise. The people kept up the enthusiasm throughout the afternoon.

The civil and military authorities attended a banquet in the evening in honor of the racers and congratulatory speeches were exchanged.

It is claimed that Fournier's actual racing time for the 282½ miles was 6:58, the road rules compelling him to slow down in many towns and villages.

Foxhall Keene came to grief. The tire of his Mors machine burst and he was thrown into a potato patch. He was not hurt.

The only English machine in the race, Edge's Napier, met with an accident to the tires and spring and apparently got no farther than Sedan, although one report says he started again. Another report is that Edge collided with a tree and was thrown violently. Two other Englishmen, Rolls and Farman, driving respectively Mors and Panhard cars, were among the best time makers. Keene arrived and was placed eighteenth on the list. He came in an hour and 34 minutes after Fournier.

Finally it was found that 73 machines arrived at the end of the first day's journey. Next morning at 5 o'clock, they were off again, in the order of their arrival. Later in the day eight more machines arrived.

Count de Perigord, the fourth racer to arrive at Aix-la-Chapelle, was so ser-

iously ill from the strain that he had been compelled to abandon the contest.

Two of the motor cars collided upon their arrival at Oberkassel, a short distance west of Dusseldorf. They ran into a group of people near the checking station. A boy was run over and severely injured. The cars were found to have sustained no damage and their trip to Hanover was resumed.

At Ruhrort M. Pinson's vehicle ran into an electric tram car and smashed the car platform. The automobile was wrecked. Nobody was injured.

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Fournier was the first to arrive at Hanover at the end of the second day's journey. He was followed by MM. Kekuyff and Girardot.

The weather was brilliant and among the thousands who assembled to witness the arrival of the contesting motor cars were Duke Ratibor, president of the Automobile Club of Germany; Baron Rothschild and Count Sierstorff, and the Hanover municipal authorities.

When Fournier drove into the city at a high speed the band struck up the Marseillaise, and the winner of the Aix-la-Chapelle-Hanover race was vociferously cheered. The arrival of M. de Grais, on a car of German construction, was also heavily cheered.

The competitors in the race were given a banquet in the evening.

Fournier arrived at 2:13 p. m., having



ROUTE OF THE PARIS-BERLIN RACE

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done 270 miles in 9 hours, 7 minutes, 39 seconds. Beyond the accident at Cassel and a couple of punctures in the tires of his car Fournier had no mishaps and his machine was in good order.

De Knyff arrived at 2:50 p. m., Antony at 2:52 and Girardot at 2:54, amid the greatest excitement and confusion.

Maurice Farman arrived at 3:26, Giraud at 3:36, Chaurard at 3:37, Heath at 3:45, Andre and Axt at 4:00, Pascal at 4:11, Henri Farman at 4:18, Brazier at 4:22, Leys at 4:27, Osmont at 4:32, Ogier at 4:34, Charron at 4:40, Berteux at 4:47, Lemelpre at 4:48, Renault at 4:49, Jarrot at 4:56 and Barraces arrived twenty-first, at 4:57.

M. Antony's time was 5 hours, 6 minutes, and that of M. Fournier 5 hours, 25 minutes. Fournier and Rene de Kynff both reached Hanover a few minutes ahead of M. Antony, but at the classification for the day M. Antony stands at the head of the list. Combining the time made in the two days, M. Fournier still retained the lead, but only eight minutes over de Knyff and 17 minutes over Antony. The fact that Antony left Aix-la-Chapelle twenty-eighth on the list and arrived third in Hanover is sufficient to mark him as a grand competitor.

Fifty-one machines started on the last stage of the journey.

Fournier finished first amid an ovation which might have flattered a king. As he avowed the enthusiasm was without bounds. Baron de Zuylen mounted M. Fournier's automobile and embraced the victor. Then Mme. Bock, the "Bouquetiere" of the Automobile Club of Germany, presented the smiling chauffeur with a magnificent bouquet.

Fournier completed the third and last stage of the race at 11:38, just 30 minutes ahead of the second man, M. Girardot. His total time for the three days was 16 hours, 6 minutes for the 1,200 kilometers.

Fournier's time for the 750 miles was 16 hours, 6 minutes, and his average speed 39¼ miles as compared with 53 miles over the shorter and smoother road between Paris and Bordeaux.

M. Girardot passed the winning post

second, arriving at 12:08 p. m. M. Brassier was third, at 12:26 p. m., and M. Rene de Knyff was fourth at 12:28 p. m.

M. Charron arrived at 12:35 p. m. and M. Farman at 12:40 p. m. The latter collided six miles out with an unknown Berlin automobilist and his companion was injured.

The arrival of the racing motors was recognized as the great sporting event of the season. As evidence of this from eight in the morning the high road from Spandau to the West End was thickly lined with people. From Berlin thousands of bicyclists and automobilists and very many of the most fashionable turn-outs, from four-in-hands to modest cabs, toiled up the hill leading from Charlottenburg to the West End suburb, about six miles from Berlin proper.

There, in Germany's largest trotting park, the victorious participants in the Paris-Berlin race arrived one by one before a fashionable, sport-loving audience of some 10,000 persons. Stands decorated with flags and bunting, French, German and Belgian colors being intertwined, were erected at the goal, where, in an adjoining tower, the judges, officers of the automobile clubs of France, Germany, Austria, and Belgium, and the most distinguished guests were waiting. Two fine military bands played inspiring music.

When Fournier arrived he was first seen at a great distance in a thick cloud of dust, approaching the goal like a whirlwind. The enormous crowd outside and inside the park began cheering wildly, and at the same time the bands struck up the Marseillaise, while all the French people present waved small tri-colored flags, and, as Fournier halted before the goal an immense wreath of laurel decorated with ribbons of the German and French colors and inscribed in German with the word "Victory" was handed to him. Then M. Fournier completed the circuit of the track and left his automobile, the bands playing Sousa marches. The victor was then taken hold of by a score of lusty young French and German athletes, who lifted him upon their shoulders and carried him across the field to the main stand.

To a correspondent M. Fournier said:—

FROM PARIS TO BERLIN.

"The weather for the last three days has been splendid. Not a drop of rain since we left Paris. The plans adopted for finding the roads were faultless, and our reception everywhere was enthusiastic, more so in Germany than in France. At the Franco-Belgian and Belgo-German frontiers triumphal arches were erected, decorated with French, German and Belgian flags. The school children lined the roads and everybody was friendly. But the roads in Germany are decidedly worse than in France. They were good to Montjoie, thence to Muenster they were execrable. To Dusseldorf they were good; thence to Bielefeld they were awful. With the air thick with soot and smoke we looked like chimney-sweeps. It is owing to these conditions that the trip has not beaten the Bordeaux-Paris race."

From that time on the racers began coming in fast. The first five in were Frenchmen; but every time the same deep-throated hurrah went up, and each man was carried in triumph upon the shoulders of enthusiastic German and French sportsmen. All the arrivals complained of the heat, dust and poor quality of the roads.

The arrival of the tourist started the excitement of the day. When M. de Backer arrived in a light voiturette, at about 20 minutes to nine o'clock, a. m., as the first of the tourist party, there was much cheering. Among the automobiles sent ahead was Baron de Zuylen's 70 horse-power vehicle, with seven seats, which excited considerable interest.

There was considerable amusement when Robert Katzenstein, of Frankfort

on the Main, came in with his automobile running backward, having made 30 kilometers, from Potsdam, in that manner, owing to the vehicle's machinery being out of order.

Among the tourists who arrived from Paris was Baron de Rothschild, who traveled under the pseudonym of "Dr. Pascal."

At Berlin the greatest precautions were taken to prevent accidents to the people or the drivers. Officers were posted at short intervals all along the route into the city and notices were posted to residents to keep their children off the streets.

A dispatch from Paris says: The automobile accidents in the Paris-Berlin race are causing an outcry, and Deputy Gauthier brought the matter up in the chamber of deputies today. He asked that measures be taken to stop running automobiles at excessive speed, and added, amid loud applause from the rightists, that it was a singular and saddening idea to organize a race to Berlin, passing through Bazelles and Sedan.

The premier, M. Waldeck-Rousseau, replied that the race would not have been authorized if it had only been started for pleasure or sport. Regulations were about to be issued to control the speed of automobiles and henceforth no race would be authorized at a speed exceeding that used in normal traffic. The roads no longer would be placed at the disposition of automobile drivers. The statement was greeted with cheers.



CYCLE SPORT AND TRADE

New York, June 30.—Manhattan Beach had an old time amateur and professional sprint race meet yesterday. It was the 20th annual of the Kings County Wheelmen. Happy memories of the past and assurances of an era of race control peace were further called forth by the familiar sight of "Uncle Jerry" Mott, the ex-L. A. W. racing board chairman, as referee.

The undoubted event of the meet was the appearance of the English riders, Gascoyne and Jenkins. Both, and particularly the former, made favorable impressions and are sure to be important factors at all the sprint meets.

A special event was arranged—an international heat match with Kramer and Cooper at one-third, one-half and one mile counting points on a five, three, two, one basis each heat. In the one-third mile Gascoyne made pace, expecting Jenkins to catch on, but Kramer fooled him. In the sprint Jenkins went by his partner after Kramer, but the Jerseyman beat him three-quarters of a length. Gascoyne was a half length behind Jenkins and Cooper was last. The time was 41 seconds.

In the second heat, half a mile, Kramer passed the Englishmen on the turn and won by half a length, with Cooper the same distance ahead of Gascoyne and Jenkins a length back. The time was 1:06 1-5. The third heat was not run, the Americans winning 14 to 8.

In the half-mile open Gascoyne beat out Freeman in his heat; but Jenkins fell a victim to Cooper and Leander. Eight men raced in the final, which went to Kramer, with Freeman second and Willson third.

The two-mile professional handicap was a combination affair, ten men qualifying, choosing partners and working team tactics by permission. The pairs were Newhouse (30) and Leander (90); Floyd Krebs (120) and Hadfield (90); Babcock (150) and Bleeker (180); Cadwell (120) and Fenn (60); Gascoyne (90) and Kimble (90).

Bleecker went out and Babcock tried to hold back the bunch, but Gascoyne swept by with a string in tow and soon pulled down the leader. Hadfield rushed to the front, but Krebs failed to catch on.

Gascoyne led into the stretch and then let his partner, Kimble, go on and win. He took second himself, with Cadwell third and Newhouse fourth.

Gascoyne will hereafter probably be a scratch man in all the handicaps over a mile and is likely to prove a second McFarland. He is, however, too generous a pacemaker and is likely to be imposed upon at first.



FENN SCORES AGAIN

New York, June 30.—It was a scorcher at Vailsburg to-day, both on the track and in the heavens.

McFarland's great world's handicap record of 10:45, made at this track last year, was beaten by over a quarter of a minute.

The five prize winners and probably a dozen more in the race actually rode under world's record time, for the whole field was bunched at the heels of the five placed men.

Fenn, the amateur champion of last year, with but 100 yards handicap, won in 10:29 2-5, with Frank Kramer scratch, not over a fifth of a second behind him, with Freeman (50), third, and Jacobson (200) and Downing (150), fourth and fifth.



WALTHOUR NEAR RECORDS

Philadelphia, July 1.—Had Bobby Walthour been pushed it is quite probable that he would have annexed many records in his 25-mile race with Arthur Ross at Woodside Park last Saturday afternoon. As it was, with Ross practically out of it when the race was half over, Tom Eck's protege finished in 38:13 4-5—about half a minute slower than Elkes's record

CYCLE SPORT AND TRADE

time made at Brockton, Mass., October 5 last year. Walthour gave an exhibition of what he had up his sleeve by riding his last mile in 1:25 1-5—said to be the fastest competition mile ever ridden.

Walthour got a trifle the best of an even start, and assumed a lead from which even the most desperate efforts of the Ross outfit failed to displace him. Time after time Ross attempted to pass, but was invariably forced to drop back. The constant exertion, combined with the intense heat, however, took the life out of him, and shortly after passing the twelfth mile-post he lost his pace, Walthour lapping him before the end of the thirteenth mile.

The lapping operation was repeated until at the close of the race, Walthour had a clear lead of two miles and a quarter of a lap. Ross, although hopelessly beaten, continued to the finish, his time being 41:09 2-5. On reaching his quarters he fainted, but was restored after a few minutes.

PLATT-BETTS HURT AGAIN

Platt-Betts, one of the best, but most unfortunate of English riders, is again in trouble. Last Saturday while attempting to beat the mile record at the Crystal Palace he was thrown from his machine through the breaking down of his pacing motor, which caused a collision. The rider's shoulder was dislocated, and he was terribly lacerated. It is feared that his skull is fractured. He was unconscious for a long time and is still delirious. On June 29, 1898, he met with a similar accident at the same place and dislocated his jaw.

TAYLOR AT TOULOUSE

Continuing his triumphal promenade around Europe, Taylor kept 3,000 good Southern Frenchmen in a turmoil of excitement and admiration on June 15 at Toulouse. It had rained all day and the meeting was to take place at 8 p. m. Long before the opening of the gates a long line of people was there. The conversation was all about "that man from over there." The event was a three-cornered match between the American, Vanden

Born, the Belgian, and Conelli, the Italian. In the first heat nothing particular happened until a few seconds before the bell, when the Belgian surprised his companions and ran away, taking 25 meters. Taylor went after him and entering the home stretch caught him. Then, unintentionally Vanden Born forced Taylor into the fence and caused him to lose the heat. The American protested and the heat was run over, this time at full speed and without incident. At the bell Taylor went to the front and won by five lengths.

TAYLOR VS. ELLEGAARD

One of the greatest and hardest fought matches ever seen on any track occurred on June 17, at Agen, a town in France, between Taylor and Ellegaard, the Danish champion. If the sayings of the papers are true, this match was run of common accord for no purse but simply for honor, as both men were dissatisfied at the outcome of their previous meetings. Three thousand spectators were around the track. Three heats were necessary. The two Jacquelin matches were as nothing compared with this one. In the first heat, run at the American's style, with Conelli setting the pace until the bell, the speed was fairly fast until the pacemaker dropped. Then Taylor went up along the banking while the Dane took the lead, resolutely increasing the speed until entering the last turn, where both men were in full action. Then the fight became so fierce that at 30 meters from the finish both men came together and it was a surprise to every one that they did not fall. Ellegaard was the first to recover and managed to pass the post a winner with about ten inches. The crowd went wild and the cheering was heard a mile distant.

In the second heat there was no pace-maker and the speed was that of a funeral, until the bell, when the Dane again went to the front and tried to prevent Taylor's jump by increasing the speed. However, the American again managed to pass in the middle of the last turn and seemed to have an easy victory. Ellegaard came back and in a final effort came within half a length.

CYCLE SPORT AND TRADE

The third and deciding heat was called and both riders received a splendid reception. Again the heat was run without pacemaker and it was a loafing contest until the bell, when the Dane went ahead at full speed. The major followed and waited until the last turn to make his attack. He ran on the outside of the Dane all round the turn, and in entering the home stretch was on even terms with him. The latter held the American without letting him gain an inch. This continued until 10 meters from the finish, when the major jumped a few inches and won the heat and the match.

A tumultuous ovation was tendered both riders by the crowd, and the two fighters shook hands. A local paper says that Major Taylor declared, after the meeting, that it had been one of the hardest matches he ever rode and that the Dane proved far superior to Jacquelin.

TAYLOR HOMEWARD BOUND

The cable announces that Major Taylor left Paris last Friday morning on his way to the United States. At the railway station he was surrounded by a crowd of admirers. One woman presented him with a bouquet.

In an interview he said that he had received enough flags to "tapestry his bedroom." He said that he regarded the French champion, Jacquelin, as the best European rider. He refused to meet Jacquelin a third time, he said, because of insinuations in the American press that he was selling his races.

William K. Vanderbilt was a passenger on the same train.

THE NATIONAL CIRCUIT

New York, June 30.—A bulletin sent out from the office of the N. C. A. board of control announces that the Grand Circuit of the National Cycling Association, on which the professional short distance championship will be decided, will start at Philadelphia, July 6, and conclude at Boston, September 7. The board of control from its New York office yesterday gave out the circuit dates as follows, though there will be several cities added

and a few minor changes made in the big line:

July 6—Woodside Park, Philadelphia.

July 8—Madison Square Garden, New York City.

July 9—Charles River Park, Cambridge, Mass.

July 10—Providence Coliseum, Providence, R. I.

July 12—Worcester Coliseum, Worcester, Mass.

July 15—Hartford Coliseum, Hartford, Conn.

July 17—Manhattan Beach, New York City.

July 18—Springfield Coliseum, Springfield, Mass.

July 20—Revere Coliseum, Revere, Mass.

July 23—Washington Coliseum, Washington, D. C.

July 25—Baltimore Coliseum, Baltimore, Md.

July 27—New Jersey Bicycle Track, Vailsburg, N. J.

July 29—Madison Square Garden, New York City.

July 30—Troy Coliseum, Lagoon Island, N. Y.

Aug. 1—Syracuse Coliseum, Syracuse, N. Y.

Aug. 3—Buffalo Athletic Field, Buffalo, N. Y.

Aug. 5—Dayton Coliseum, Dayton, Ohio.

Aug. 7—Newby Oval, Indianapolis, Ind.

Aug. 8—Newby Oval, Indianapolis, Ind.

Aug. 10—Cleveland, Ohio.

Aug. 12—Pan-American Exposition, Buffalo, N. Y.

Aug. 13—Pan-American Exposition, Buffalo, N. Y.

Aug. 14—Pan-American Exposition, Buffalo, N. Y.

Aug. 15—Pan-American Exposition, Buffalo, N. Y.

Aug. 16—Pan-American Exposition, Buffalo, N. Y.

Aug. 17—Pan-American Exposition, Buffalo, N. Y.

Aug. 19—Syracuse Coliseum, Syracuse, N. Y.

Aug. 21—Manhattan Beach, New York City.

Aug. 22—Baltimore Coliseum, Baltimore, Md.

Aug. 23—Washington Coliseum, Washington, D. C.

Aug. 24—Woodside Park, Philadelphia, Pa.

Aug. 26—Hartford Coliseum, Hartford, Conn.

Aug. 28—Providence Coliseum, Providence, R. I.

Aug. 29—Springfield Coliseum, Mass.

Aug. 30—Worcester Coliseum, Worcester, Mass.

Aug. 31—Revere Beach, Revere, Mass.

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Sept. 5—Charles River Park, Cambridge, Mass.

Sept. 7—Charles River Park, Cambridge, Mass.



FAST TIME ON MOTORS

Atlantic City, N. J., June 25.—W. Wayne Davis and Edward Fast, of Philadelphia, came to Atlantic City yesterday afternoon on their motor bicycles. Their actual running time from Camden, 55 miles, was 100 minutes. They rode from Hammonton to Egg Harbor City, 12 miles, in 17 minutes. They returned home today. The men rode Orient motor bicycles.



REBUILDING THE TRACK

New York, June 30.—Workmen have been engaged all the week in rebuilding the ten-lap track at Madison Square Garden so as to greatly increase its pitch at the curves and render it more safe for motor paced racing. Three thousand people saw the inauguration of night racing at the Garden last Monday evening. It was a chapter of accidents from start to finish, hence the changes.



MINNEAPOLIS CENTURY

The Minneapolis contingent of the Century Road Club is making arrangements for a 100-mile race around Lake Como, the event to take place Saturday, July 13. A novel feature is the fact that the public can witness the entire race. The local dealers are taking considerable interest in the event and are donating prizes with great liberality. There will be about 25 prizes and from present indications about 50 entries. The handicap limit will be 1 hour, 30 minutes.

Entry blanks may be obtained from Paul Gyllstrom, care Minneapolis Times. Entries will close July 8.



PLANT NOT YET SOLD

The reported sale of the Keating plant to the Elsenhuth Horseless Vehicle Co. has not yet been consummated. The receiver, F. A. Betts, has given the company an option, which expires on August 1st. If the sale is eventually made it will in no way affect the production of Keat-

ing bicycles and motor bicycles, as Mr. Keating will still remain at the plant.

The amount of the purchase money is \$210,000, and of this \$10,000 has been deposited. It is expected that the bondholders of the Keating company will receive about 80 per cent of their claims.

Meanwhile John W. Elsenhuth is in trouble. He has been indicted by the grand jury upon the complaint of James Wilson, of Brooklyn. The latter made complaint against Elsenhuth a year ago, and the grand jury on June 18, 1900, threw out the complaint, refusing to indict. Judge Cowing, at the present term of court, granted leave to submit the complaint.

Wilson claims that Elsenhuth placed in the hands of Edward T. Talcott 50 shares of the Elsenhuth Horseless Vehicle Co.'s stock to be sold. Mr. Talcott then offered him 25 shares, says Mr. Wilson. Upon Elsenhuth's representations as to the worth of the stock, Wilson bought 25 shares, paying therefor \$3,125. His check on the Bank of North America was paid to Elsenhuth. The stock he declares is worthless.

W. C. Whitney and Stewart F. Chisholm, of Cleveland, were interested in the scheme by Elsenhuth, some time ago. Chisholm subscribed for \$50,000 worth of stock. He went into court and was relieved from paying \$20,000 of the amount.

Elsenhuth was held under \$3,000 bail.



CYCLE COMPANY DISSOLVES

Columbus, O., June 30.—An application has been made for the dissolution of the Columbus Bicycle Co. The application was made by the directors, George H. Kelly, Clayton K. Fauver, George Cook Ford, Francis G. Coates and Paul Walton, who recite that the company which was organized for the manufacture of bicycles, is not now engaged in such business or any other business, and that the company has disposed of all its assets, and that the company owes no debts; that the objects for which the company was organized have wholly failed and have been entirely abandoned. At a meeting of the stockholders it was unanimously decided that the company should be dissolved according to law. All the

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real and personal property of the concern has been disposed of. The company had an authorized capital stock of \$50,000 and a paid in capital stock of \$31,200 which is owned by the following: Paul Walton, of New York, 308 shares; Francis G. Coates, New York, one share; Clayton K. Fauver, George H. Kelly and George Cook Ford, all of Cleveland, each own one share.



COASTER FOR CHAINLESS

The Eclipse Mfg. Co., of Elmira, N. Y., announces that it will be prepared to furnish a coaster brake for chainless cycles next year. The company has experimented with Morrow brakes on chainless machines for a long time and after giving it severe tests has become satisfied of its ability to offer a brake which will give as great satisfaction on a chainless as its older production has done on a chain machine. The new brake will be backed by the company's guarantee and the makers will be prepared to offer it in any quantities desired for next season's business.



OIL ON THE ROADS

The suppression of dust has been accomplished in some parts of California by the use of oil on the roads. The first experiments were made about two years ago and this paper stated at the time there would sooner or later be an outcry from cyclists and owners of automobiles. The experiment has been a great success, so far as freeing the roads from dust is concerned, but the rubber tires of vehicles have been ruined. The increasing number of rubber tires will probably make it necessary to abandon the practice.



BATTLE OF TIRE MEN

When the Consolidated Rubber Co. proposed, a few weeks ago, to retire a large amount of its capital stock and issue bonds in lieu thereof, a number of the creditors and others interested—including the Goodyear Tire Co., which is suing the Consolidated for alleged breach of contract—raised an objection and secured an order restraining the company

from doing anything further in the matter until the merits of the case could be heard in court. The matter came up last week. The attorneys for the Consolidated denied that any action was contemplated which would jeopardize the interests of creditors. The other side agreed to the issue of bonds provided they were stamped with notification that they are liable for outstanding liabilities. An order was finally made that they might be issued subject to that agreement. Incidentally the Consolidated denies that it is insolvent, says that its profits have averaged \$22,000 a month for the last year and claims assets of \$807,681.



REDUCES STOCK ISSUE

Shareholders of the Consolidated Rubber Tire Company have voted to decrease the capital stock from \$10,000,000 to \$7,000,000 by the purchase for retirement of 30,000 shares of the preferred stock, to be paid for in cash or by some obligations of the company, to be decided on, at a price not above par. After this movement is completed there will be a further decrease of the capital by \$2,000,000, certain stock owned by the company being retired. The capital will then consist of \$5,000,000, of which \$1,000,000 will be preferred and \$4,000,000 common stock.



STEARNS IN COURT AGAIN

The Stearns Bicycle Agency has secured an order of court requiring the American Bicycle Co. to appear and show cause why the late order should not be modified. It will be remembered that the court ruled that the Stearns concern could not use the name Stearns on any of its machines. The agency wants the order amended so that it may be allowed to continue the use of the name on its cranks and alleges that it is in an obscure position.



THE ENGLISH CHAMPIONSHIPS

The first meeting for the N. C. U. championships took place at Bristol on June 15, before about 7,000 spectators. Only the amateur championships were

- CYCLE SPORT AND TRADE

run, there being too few entries for the professional events.

In the mile, Pease won from Reynolds and Payne, while Ingraham won the quarter from Reynolds.



COMING TO BUY GOODS

Chr. Gottschalck, of Copenhagen, who is one of the largest wholesale dealers in cycles and accessories in Scandinavia, will arrive in this country on a purchasing trip between this time and July 15. He may be addressed at the Broadway Central Hotel, New York, until the 15th, and after that, until August 15, at the Palmer House, Chicago.



BREMER IN TROUBLE

Milwaukee, July 2.—(Special telegram.)—William Bremer, cycle manufacturer, filed a petition in bankruptcy to-day. His liabilities amount to \$3,781.89 and his assets to \$2,253. The Goodyear Tire Co. and Morgan & Wright are the heaviest creditors.



Frank P. McEvoy, of 63 East Maine street, Waterbury, Conn., has one of the

most attractive bicycle stores in New England and his lines of Pierce, Buffalo King, Tribune and Featherstone bicycles, are displayed with as much taste as if they were works of art. If a man went into the McEvoy store with any idea of buying, the chances are that he would leave it a purchaser. A well ordered store with goods well displayed is often half the battle and this, coupled with polite attention from the salesmen, invariably wins when a less attractive display and a grumpy salesman will turn prospective customers away.

The sudden death of Don Smith, of the Olive Wheel Co., of Syracuse, who was to have assumed the management of the Holly Motor Co., as soon as its new factory is completed, is announced. It occurred 10 days ago and, until within a day or two of the melancholy event, was totally unexpected.

At the time announced for the closing of entries for the Pullman road race 126 entries had been received. The number was increased to 150 by Saturday noon, the committee in charge having decided to keep the list open until that time.





FROM CORRESPONDENTS



Chicago, June 29.—To the Editor:—Our experience with plugs in our business of equipping gas and gasoline engines with jump spark ignition proved, for a time, a sad failure. We had propositions submitted to us for furnishing equipment for engines ranging from 1 to 50 horsepower, including bicycle, motor vehicle and stationary engines, and while the smaller sizes were equipped so that they gave a certain amount of satisfaction, there was much to be desired.

In the automobile and stationary engines of larger sizes, little satisfaction was derived and constant trouble occurred with the plugs, with one exception, purchased on the open market, and it was found necessary, in order to overcome the difficulties constantly arising, to make a plug in which the defects of others were lacking.

We studied each and every case where trouble arose and found this:

First, that mica, while standing the heat better than any other form of insulator, would hold carbon between the layers and on the surface to such an extent that where the mica came in contact with the steel, short-circuiting occurred in a short while. This precluded the use of a plug made in that manner.

Second, where lava—or talc—was used, it was found to absorb moisture and was therefore not a perfect insulator. It would so take the carbon on the end in the combustion chamber that it short-circuited readily, and this also occurred where the insulator came in contact with the steel shell. In addition the insulator would crumble, in some instances, and in others, split or chip off so as to render it valueless. This latter feature of breakage was not caused by the heat alone—as when being hardened the tubes with-

stand a far greater heat than is in the cylinder at any time—but resulted from the pressure on the tube, which allowed of no expansion.

Third, porcelain when under similar conditions to the lava would also crack and break, rendering the plugs useless. While the porcelain tubes gave the most satisfactory results, there was something to be desired and after a careful study of the problem we have produced a plug which has not failed once. We do not say this because we are at all proud of what the plug has accomplished for us, but because we can substantiate it in every detail and have every reason to believe that what it has done for us it will do for others.

In the first place we found that heat, such as plug has to withstand, will not crack either porcelain or lava if the conditions are right, neither will it harm mica, as the two former pass through many hundred degrees higher temperature in process of manufacture than they will ever be called upon to withstand in a gasoline engine, while the mica is unburnable. Therefore with danger from heat lacking, both forms can be used, providing all strain is removed from the insulator and allowance made for the unequal expansion under heat, of all the parts.

Working on this plan, but with porcelain and mica—not lava—we produced a plug in which the porcelain or mica did not come in contact, at any point, with the steel shell and was held in place by washers of a material that would withstand heat and yet allow of free expansion in all directions. Not only this, but the central stud or bolt, running through the insulator, was of such dimensions that it placed no strain whatever on the

FROM CORRESPONDENTS.

tube and in addition had a washer of similar material to that used inside the plug, under the circular end nut, this allowing for longitudinal expansion and contraction in the stud as well as in the porcelain or mica. This stud, it was found, should be made of low carbon steel in order that it stand the heat properly.

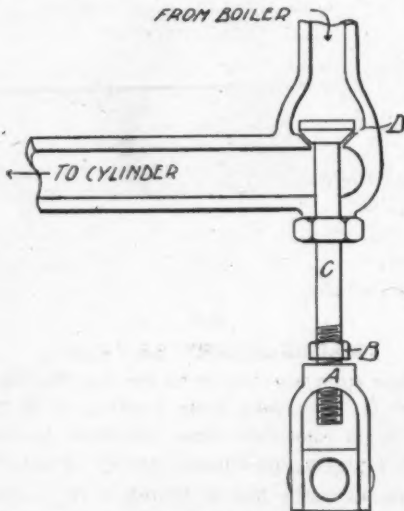
After the most exhaustive tests with plugs of all kinds our own product is the first one to go through its work under the same conditions, and in the same engines, as all the others have been tried, and do its work without a stop.—Yours, etc., P. J. Dasey & Co.



A FORTUNATE ACCIDENT

Liberty, Ind., June 26.—To the Editor:—The following recently appeared in the Indianapolis News. It is, of course, highly overdrawn:

"A young man living in Liberty, Ind., but who transacts business in Indianapolis, owns an automobile. Some time ago he fell in love with a young woman living in North Pennsylvania street, and since



then the automobile has been making frequent trips between Liberty and Indianapolis.

"After a delightful whirl about the streets one afternoon, the young man applied the brakes in front of a Washington street candy store and came to a stop at the curbing. He jumped out and acknowledged her sweetest smile by excus-

ing himself 'for just a moment.' No time was lost in the store and he was settling the bill for a five-pound box of bon bons when he heard an agonized scream in the street and a hurried glance in that direction apprised him of the fact that his auto had moved. With the cold chills playing tag up and down his spine the young man made a dash for the door. His hair stood on end in apprehension for the young woman's safety, and he landed on the sidewalk ready for any emergency. Before he could grasp the situation the agonized voice was lifted again with one word—and that was 'Jimmy.' She had never called him Jimmy before, and his heart fluttered with joy. There was the young woman in the auto, and the machine was backing along the gutter, hugging the curb. What started it she did not know. Jimmy gave three leaps to the rescue, and within a second's time calmed her fears by turning off the power."

My rig, a Locomobile, did start backwards, and what caused the trouble is shown by the sketch. Lock-nut B became loose and allowed the valve stem C to turn in the stirrup A, so that steam still passed through the throttle or opening D, from the boiler to the cylinders.—Yours, etc., Jim Davis.



TWO FOOL EXPERIENCES

Chicago, July 2.—To the Editor.—In line with your remarks of last week relative to the necessity of care in the handling of gasoline I want to relate an incident which occurred on Saturday just to show the makers what they have to contend with. If a man who is supposed to know would do such a fool thing, what may be expected of the public which knows little about gasoline?

I called at the store of one of the makers of vehicles. One of the men was about to start up a machine with a blow torch. He turned on the gasoline to let some of it run into the cup and then started to find a match, leaving the torch, in the meantime, on a greasy bench, among a lot of equally greasy waste. By the time he returned the cup had filled and flowed over, but without the least care he applied the match.

FROM CORRESPONDENTS.

You know what followed, don't you? Well, there was some lively wielding of old caps for a few minutes and in the end no harm was done, but smaller incidents have been responsible for great fires and for the ruin of the hopes of many persons who would like to own automobiles. I contend that no maker can afford to have men so careless in their employ.—Yours, etc., A steam vehicle user.

Cleveland, June 30.—To the Editor.—I heartily endorse the views expressed in last week's issue relative to the need of greater care in the disposition of gasoline in steam vehicles. A month ago I made up my mind to buy an automobile. Steam seemed to be the proper thing, according to a friend on whom I relied for advice and so I paid \$50 on account, and a man took me out to show me how to manage the machine. That part of it was all right and we got along famously.

Several miles from home we stopped for awhile and turned off the fire. When we turned it on again and applied a match—whoop! Gasoline had been leaking from the burner somehow—I didn't stop to find out how. It was enough for me to know that with an experienced operator aboard I couldn't make a short trip without the possibility of scorching my shins. Of course the operator managed to subdue the flame, but had I been alone I fear there would have been nothing left of the machine. And I don't lay claim to being an absolute fool, either.—Yours, etc., J. W. Stoner.

(The stupidity of the operator, rather than any defect of the machine was probably responsible for this correspondent's trouble. Many flare-ups occur because of the failure of the operator to give the burner sufficient time to heat properly, thus allowing oil to flow into the burner.—Ed.)

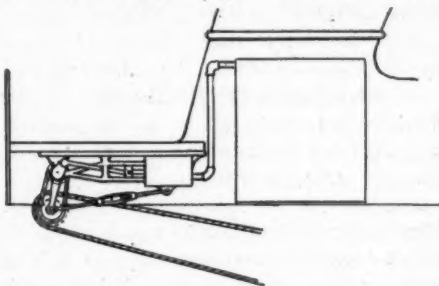
A DOCTOR'S TROUBLES

Woodstock, Ill., June 26.—To the Editor:—Most of the troubles I have had since using a steam vehicle have been on account of high winds. During comparatively calm days I can keep steam at 175 pounds, no matter how fast I run or

how steep the hill, but when a stiff wind blows from either side it is hard to keep steam at even 100 pounds.

Steam vehicles are operated most economically when using between 175 and 200 pounds of steam and less fuel and water is required at that than at lower pressure.

If some one will devise some way to prevent winds from affecting the fire it would be a boon to users of steam vehicles. The engine should be more accessible for repairing. It needs a great



deal of adjustment which, as steam vehicles are now built, is very difficult of accomplishment. The engine should also be provided with a sight-feed lubricator for the cylinders.

Why could not a horizontal engine be placed under the feet of the operator where it could be reached from all sides and at the same time be better protected from the dust?—Yours, etc., Dr. E. Windmueller.

(The writer's attention is called to the letter of G. W. Hendricks, of Indianapolis, published in last week's issue.—Ed.)

PRAISES SPERRY BATTERY

Los Angeles, Cal., June 29.—To the Editor:—I have had little trouble, if any, with my rigs; only those attendant on the old style Helios-Upton battery, which I used up to the last of March, when I discarded it for the Sperry, which, in my estimation, is, up to date, the best battery made in the world.

I was so fortunate to secure the first batch of Sperrys ever turned out. At first I was rather cautious about taking long runs but since I have become acquainted with their wonderful capacity I have repeatedly made 75 and 80 miles on one charge, through sand, up hill and down,

FROM CORRESPONDENTS

with a full quota of passengers, and even then I had not run out as my meter showed 79½ volts out of 84.

I am engaged in the auto-livery business in Los Angeles and make trips that it was said could not be made by an electric. Furthermore, I have repeatedly challenged the steam carriages for a distance contest, the one making the fewest stops and leaving the rig least to win the race. Up to date my challenge has not been accepted.

I think that if the makers of automobiles would see that the rubber tires on the rigs correspond with the rest of the vehicles we would all be better pleased. My tires are 1¾-inch and last no time at all over sandy roads.

Hoping that my enthusiastic praises of the Sperry battery will be accepted in the spirit intended—the expression of a long sufferer finding relief from being stuck with an electric, I am—Yours, etc., S. L. Hall.

STILL USES HIS HORSES

Dowagiac, Mich., June 25.—To the Editor:—Before purchasing a carriage I read a number of catalogs and magazine articles in regard to them and formed the idea that one could be operated with very little trouble. I expected to displace a pair of horses and a man to care for them by using a motor, but after purchasing the carriage found that it required just as much to keep the engine in running order as to care for the horses. The work is also just as dirty and disagreeable and requires more intelligence. For this reason it was necessary for me to do it myself and I did not care to spend all my spare time in that way. In addition, I found that only occasionally could the engine be started when I wanted it, but when I put on the overalls and went after it to locate the trouble, it would generally go the first time. As these things seemed to occur without any apparent reason, it was decidedly unpleasant. I have some mechanical ability and believe that I kept the machine in fair adjustment.

The carriage was a Haynes-Apperson two-seat and the makers never succeeded in making it run ten miles at a time, so

I do not think I was entirely at fault. It took their man five days to deliver it here, 125 miles.

The machine is now being used by a man who wants to build one—different. I can hire men to care for my horses and do the driving myself, but I do not care to hire a machinist and have to take him with me every place I go.—Yours, etc., A. B. Gardner.

(Then gentleman's experience does not agree with that of a majority of users of this particular machine. That others have passed through troublesome experiences is true, but a majority of the users agree that the Haynes-Apperson vehicle is one of the most reliable on the market.—Ed.)

TROUBLES OF A NOVICE

Le Mars, Ia., June 25.—To the Editor:—I am the happy possessor of a Winton carriage, and had never seen or ridden in a motor carriage when I purchased it. I have had my little ups and downs the same as any one else who knew absolutely nothing about gasoline engines.

My first troubles were with the friction clutches, of which I knew nothing. It took me a half day to learn how to tighten them; then I thought I was O. K.

Finally my machine ceased to work and I could do but little with it. I called in an electrician and was told that my battery was no good. I purchased a new one and was happily pleased to see the carriage fly along again. The first was a wet battery and leaked badly. The last was a six cell dry battery, furnished by the Winton people.

My third experience of bad luck was with the sparker. The insulator burned out and short circuited and could not get a spark. Had a gasoline engine man to fix that and all has gone well ever since.

My opinion is that the battery and sparks are the two great things to master; but do not forget to thoroughly understand friction clutches if you do not want to swear.—Yours, etc., Dr. M. W. Richey.

C. B. Keiser, of Marion, O., a dealer in cycles, has made an assignment. His liabilities are only about \$1,000.



INFORMATION FOR BUYERS AND BUILDERS



One of the handsomest of the light hydro-carbon vehicles now on the market is the Orient victoriette, built by the Waltham Mfg. Co. That it is in all points well and thoroughly constructed and finished the company's name is a guarantee.

The Victoriette is fitted with a 5-horsepower water-cooled motor, attached to a specially designed semi-spring running

gear. The running gear is hinged in the middle and the motor is attached to the rear part, to give it stability and avoid unevenness in the chain adjustment. The supports for the motor are also attached to the body, which rests on the springs, thus serving the double purpose of protecting the motor and allowing the springs to absorb the vibration. The rear sprocket contains the compensating gear,



THE ORIENT VICTORIETTE CARRYING FOUR PASSENGERS.

INFORMATION FOR BUYERS.

clutch and brake. Both brake and clutch work by expanding a steel band $1\frac{1}{2}$ inches wide and hold equally well backward or forward. The carbureter is of aluminum and is of the company's own design. The supply works automatically. The brake and the clutch are worked by a foot lever. When the lever is back the clutch is open; pushing it half-way forward releases the clutch; pushing it further forward puts on the brake. In other words, the brake cannot be put on without first releasing the clutch.

The steering device is an original application of the side steering lever. The steering bar extends slightly to the left of the standard, as well as to the right, so that it can be steered with either hand. For very fast riding it can be moved so that there is an equal distance on each side of the standard, allowing the use of both hands. It can be slipped entirely to the left for convenience in getting in and out of the carriage.

The transmission gear provides for two speeds forward and one backward, the gears for which are contained in a box attached to the motor, the motor shaft extending entirely through the box containing these gears. It is so arranged that in running on the high speed it drives directly by chain from the motor axle to the rear axle, thus avoiding the friction and noise of a train of gears. These gears are controlled by the crank on the top of the standard, to which the steering lever is attached. The machine will ordinarily be run on the high speed. Turning the governing crank to the left gives the low speed and to the right gives the backward speed. In going from the low speed to the reverse, and vice versa, it is simply necessary to give two turns instead of one. One set of gears is automatically thrown out before the other can be put on, and the clutch is also automatically released before the speed can be changed.

The ignition and gas levers are attached to the standard on a level with the seat, very convenient to the operator. The standard is placed on the left of the carriage, just even with the front of the seat, which places it entirely out of the way of the feet.

The Victoriette, while designed espe-

cially for two persons, can be used by either three or four. Instead of the ordinary dash, an auxiliary seat is used, which, with its low rail, adds to the appearance of the carriage when used by one or two persons. It has a detachable back, making it a comfortable seat for one or two additional persons. It can also be reversed and the front, which is hinged, dropped down, making a foot board and a comfortable and attractive seat for two children.



SCOTT ELECTRIC CARRIAGES

The Scott Automobile Co., St. Louis, has already achieved considerable reputation as the builder of carriages that run. It is at present devoting attention to electric vehicles, and supplies therefor, particularly running gears, motors, controllers and batteries. The company is building but one style of running gear but will soon add another for light runabouts.

The one now being furnished is built in three sizes. The first and smallest of these is that used for the stanhope, and is equipped with 30-inch Sarven wood wheels and $1\frac{1}{2}$ -inch solid rubber tires. The motor used on this gear is of $2\frac{1}{2}$ horse-power. The second is for light delivery wagons, traps, etc., and is equipped with 32-inch wheels, 1 5-8 inch solid tires and has two motors with joint capacity of five horse-power. The third and largest is for heavy carriages and delivery wagons, is equipped with 34-inch Sarven wood wheels with $1\frac{3}{4}$ -inch solid rubber tires and has the same motors as pattern No. 2. All are fitted with Timkin roller bearings.

The motors manufactured by this company are neat and compact in external appearance. The standard winding is for 80 volts, but will be wound for any desired voltage. Twenty-five amperes is the normal pulling rate and under load the normal speed is 1,200 revolutions per minute. The efficiency averages 85 per cent and being series-wound the motor will stand 100 per cent overload without undue heating. The shaft bearings are fitted with roller bearings.

The Scott company makes a controller of simple and compact design by which three speeds in each direction are obtain-

INFORMATION FOR BUYERS.

ed and the operating lever also operates the brake so that the entire control of the vehicle is under one lever.



MARYLAND AUTOMOBILES

The Maryland Automobile Mfg. Co., of Luke, Md., while putting up a handsome line of light steam carriages, is devoting a great deal of attention to the manufac-

ture of a delivery wagon, carrying 15 gallons of gasoline.

This carriage is in reality a trap, as the rear seat can be removed making it a two-passenger vehicle. Between the front and rear seat is a roomy basket for baggage. The top is of the canopy pattern and is readily removable. The wheels are of wood, with brass hubs. Four-inch pneumatic or two-inch solid rubber tires



DELIVERY WAGON MADE BY THE MARYLAND AUTOMOBILE CO.

ture of heavy carriages and delivery wagon. A particularly handsome pattern is the Tourist carriage, a high power automobile built especially for touring and long distance work. A 12 horse-power engine, fed by a 15 horse-power boiler, furnishes the motive power. An unusually large capacity for water and gasoline is provided, the gasoline and water tanks holding 10 and 65 gallons, respectively. Arrangements are made for an extra gas-

are fitted as desired by the purchaser. The steering is by wheel, as is that in all the company's heavy vehicles.

The company also builds a passenger bus designed to carry 14 people besides the driver. It carries 15 gallons of gasoline and 100 gallons of water, is equipped with wood wheels, brass hubs and solid rubber tires and is handsomely upholstered and finished.

For freight use it builds a truck which

INFORMATION FOR BUYERS.

will carry as high as two tons and will climb a 12 per cent grade fully loaded. Speed capacity on the level, 15 miles per hour. The floor space is 5x8 feet; weight, fully equipped, 3,000 pounds. The company also builds to order racing machines from eight to 34 horse-power.

PANHARD AGENCY HERE

New York, July 1.—American admirers of the famous Panhard & Levassor racing machines will have an opportunity of purchasing these wagons in this country in a short time. The Charron Automobile Co. of America has been organized to market them. The company has opened a large establishment at 133 West 38th street, and one of the members of the concern departed for Europe last week with the intention of sending over from 12 to 15 of the latest models. Among the types which will be sent over, will be the Panhard double phaeton, seating four people; a Panhard with tonneau body, seating six people, and a Panhard volturiette, a light vehicle for two.

M. Charron is interested in the company and among the officers are A. D. Proctor Smith and N. E. R. Mabley.

In conversation with an Age man Mr. Smith stated that he thought M. Charron would visit this country for the automobile club contest in September. Considerable interest has been aroused in the New York trade by the advent of the new company, and it is said that these wagons will take a prominent part in all contests in future.

ROCK FALLS FACTORY

In addition to what has already been said in these columns about the proposed automobile factory at Rock Falls, Ill., the following information has been gleaned from a local paper. The gentlemen principally interested in the project are R. K. Swift, Myron Detrick and S. T. Zeller. Mr. Swift is quoted as stating that but \$4,000 is now required to start the factory in proper shape and that the raising of this will not be a difficult matter.

The business is now located in the Keystone building, at Rock Falls, and there

is some talk of securing another story in this building for temporary purposes. If the project is carried through about 40 men will be employed at the beginning.

It is said that capitalists of DeKalb, headed by Colonel Elwood, are making overtures to obtain the factory but the promoters are strongly in favor of the present location.

NEW AUTOMOBILE PLANT

Union City, Ind., June 29.—Arrangements have recently been completed here for the erection of an automobile factory to cost \$50,000. Of this amount \$5,000 was subscribed by citizens who took stock to that amount and the rest is furnished by the Lamberts, of the Buckeye Mfg. Co., of Anderson. The head of the company is A. L. Lambert. The machine is the invention of John Lambert. The erection of the factory will begin immediately.

A FRENCHY CARRIAGE

One of the most Frenchy appearing gasoline carriages constructed in this country is that recently built by the Robinson Motor Vehicle Co., of Boston. It is a touring car of the Panhard-Levassor type and is designed to carry four people. The wheels are of the artillery type, 34 inches in diameter, with four-inch pneumatic tires. The steering is by wheel, operating a worm gear. The motor is a four-cylinder 4x6 engine and the Upton transmission gear is used.

Great speed is not claimed, the machine being designed more particularly for comfortable touring over American roads, although it has made five miles on an ordinary road in 9 minutes, 10 seconds.

AUCTION WAS A FAILURE

New York, June 29.—Much gratification is expressed among the members of the automobile trade in New York over the recent experience of a speculator who thought he saw a chance of making a fortune out of the automobile business. This individual recently endeavored to conduct an auction sale of automobiles. New York dealers were worried over the pros-

INFORMATION FOR BUYERS.

pect, as they realized that if this man made a success of the venture, it might seriously interfere with the season's trade. Those who had previously been in the bicycle business remembered the effect of the auction sales in the early stages. The sale came off last week, and about one dozen wagons were on exhibition. Notwithstanding the persuasive eloquence of the auctioneer not a single wagon was sold. The fact developed, during the sale, that there is a big demand for second hand vehicles up to about \$400.



YOUTHFUL GENIUS

Ralph Weston, a student in the manual training school at Calumet, Mich., has just completed an electric carriage on which he has been working for some time. During a recent test the machine worked admirably to the great satisfaction of the youthful builder, who made the entire machine, except the frame work of the body, which was constructed by a local carpenter.



Manager Gates, of the Baldwin Chain Co., Worcester, is receiving endorsement from automobile manufacturers all over the country on the value of the $\frac{3}{4}$ Baldwin inch pitch, 5-16 inch roller chain. This was first intended by the company to replace the light 1-inch pitch block chain, and its adoption is now advised on light carriages. K. Franklin Peterson, 165 Lake street, Chicago, is the western representative of the company and carries this chain in stock.

It is announced that the Hub Motor Co., of Chicago, is now ready for business and will shortly install a line of vehicles, plying for public service, between Diversey and Jackson boulevards. Each bus is to carry 40 persons and they will run on scheduled time. It was reported some time ago that the work on these vehicles had been done at the Westinghouse plant in Pittsburg.

William Bulmer, of Windsor, Ont., has just completed a steam vehicle which is stated to be the first wholly made in Canada. He carries 18 gallons of water and pumps it through a copper coil sur-

rounding the muffler so that it reaches the boiler almost boiling. Bulmer says he has not the necessary capital to build machines in large numbers.

The case of the stockholder who wanted the Electric Vehicle Co. enjoined from collecting an assessment on his stock, was to have been heard last Tuesday but was postponed for a week. Meanwhile nearly all the assessments have been paid in by other stockholders.

The Clark Mfg. Co., of Moline, Ill., has finished a gasoline vehicle, with a four horsepower motor of home make. The vehicle is now being tested and has been sold to Doctor Ludwig, of Rock Island. If it behaves well in every-day use the company will proceed with the manufacture of others.

Mr. Fulton, of the Farrell Foundry & Machine Co., Waterbury, Conn., says that his company is in possession of a large number of orders, but the machinists' strike has caused a good deal of inconvenience. The company is just building an addition to the factory which will give it much enlarged facilities.

A receiver is to be appointed for the Liquid Air Power and Automobile Co., whose factory is at Cambridge, Mass., whose capital is \$1,550,000, and whose assets and liabilities are \$7,500 and \$4,500 respectively. It is a friendly affair, but the object of the action is not stated.

E. L. Ferguson, of the Thomas Motor Co. calls attention to the fact that he made the last 58 miles of the late Journal century in 2 hours, 10 minutes, equal to 2:14½ per mile. The gentleman's last letter stated, through a stenographer's error, that he made 50 miles in that time.

The Maltby Automobile & Mfg. Co., an old concern under a new title, has been incorporated at Brooklyn, N. Y., with a capital of \$20,000. The directors are I. S. Cormer, F. E. Phillips and C. C. Protheroe, all of New York.

The French tire manufacturers, Michelin & Co., offered \$4,920 in prizes for French vehicles equipped with Michelin tires for the Paris-Berlin road race.

The Snecker Boat and Motor Co., of Greenwich, Conn., is now building launches and marine motors.

RULES FOR THE ENDURANCE TEST

Entry Blanks are Ready—Fee of Fifty Dollars for Each Vehicle—Certificates for the Winners—State Law of 15 Miles an Hour to be Enforced—Hill Climbing Test at Little Falls—The Route.

The committee in charge of the endurance test which starts from New York on September 9 and finishes at Buffalo on September 14, has adopted the following rules and regulations:

1.—It will be assumed that every contestant is acquainted with the rules of the contest, and by entering therein he agrees to abide by said rules. In the event of dispute concerning the interpretation of the rules, the decision of the contest committee shall be final. The committee reserves the right to alter or amend these rules from time to time as it may deem expedient.

2.—The contest shall be open to all classes of self-propelled vehicles made in the United States or abroad, but no manufacturer, agent or private owner shall be allowed to enter more than three vehicles in any one class. Application blanks will be forwarded by the secretary of the club, upon request.

3.—The time for receiving entries will expire on August 31, 1901. All entries must be accompanied by the following information in full:

Weight of the motor vehicle, including fuel, supplies and equipment.

Capacity of water and capacity of gasoline.

Number of miles, with the number of passengers, the vehicle is able to run on ordinary roads without any replenishing of fuel or water.

Maximum and minimum rate of speed for each vehicle.

Full name of manufacturer.

Place of manufacture.

Rated horsepower of the motor; number of cylinders, bore, length of stroke and normal speed of engine.

4.—The entrance fee for all classes, motor cycles excepted, up to and including August 15, shall be \$50 for each vehicle. In the motor cycle class the entrance fee shall be \$25 for each vehicle. After August 15, 10 per cent will be added to the entrance fee for all classes.

The entrance fees shall be paid to the treasurer of the club at the time application for entry is made. Any person making an entry agrees that in the event of the vehicle being disqualified or failing to take part in the contest, the entry fee shall be retained by the club. The club shall have the right to refuse an entry without stating any reasons.

5.—In classes A, B and C each vehicle shall carry at least two persons. These may be changed and others substituted within the confines of any control, but if passengers be changed outside of control, the vehicle shall be subject to disqualification.

6.—All entries for the contest shall appear in person before the committee at the automobile club on Friday morning, September 6, and after giving full information as required by rule 3, receiving their official numbers and being officially recorded, shall go to a place designated by the committee and have their entries examined by the committee's representative, the carriage weighed, and an official seal affixed thereto.

7.—Disqualification shall mean that on notice being served on any vehicle, it shall cease to run in the contest and shall not receive a certificate of mention in the records. A person on receiving notice of disqualification shall withdraw his vehicle and immediately remove the official number therefrom.

No notice of disqualification shall be

RULES FOR THE ENDURANCE TEST.

served unless the person in charge of the vehicle has first been notified of the act which it is claimed should disqualify the vehicle. If the act be disputed, disqualification shall be postponed until the contest committee, at a meeting to which all concerned shall be invited, shall take evidence and render their decision. The person so disqualified shall have no claim on the club of any kind or nature whatsoever.

8.—Any contestant has the right of protest, but the committee may refuse to consider such protest. In the matter of protests, the contest committee or its official representatives may interfere. Any contestant entering a protest must do so in writing, and shall substantiate the grounds of his protest. The party protested against shall have the right of being heard in opposition. If the party protested against does not admit the accuracy of the protest, the matter shall be adjudicated by the contest committee.

All protests must be filed within 24 hours of the time of the commission of the act against which protest is made. All parties making protests shall be required to make a deposit of \$10, which shall be forfeited in the event of the protest not being sustained, the intention being to put a penalty on frivolous, immaterial or unsubstantiated protests which would consume unnecessarily the time of the committee.

9.—Each contesting vehicle must have securely attached to it in a conspicuous position on both front and rear, an official letter and number corresponding with the catalogue class and number. There shall be no other mark or sign on any vehicle other than the owner's initials and the manufacturer's usual name or number plate as affixed to a vehicle when sold to a customer. Those having charge of vehicles will be held responsible for the plates being in conspicuous positions and clearly legible.

10.—Stewards shall be appointed and located where it may be necessary to stop contestants or require them to drive at a limited speed, and the stewards shall

see that the instructions are strictly followed.

11.—All vehicles going in the same direction must pass other vehicles to the left in accordance with the rules of the road, and vehicles meeting each other must pass to the right. Vehicles must keep to the right of the center of the roadway, except when there are no approaching vehicles and the conditions are such that it is impracticable to travel on the right side of the highway. If for any reason it is necessary for vehicles to travel on the center or left side of the roadway such vehicles must cross to the right side, irrespective of the condition of the roads, as soon as signalled by an overtaking or an approaching vehicle. Vehicles must signal one another when approaching in either direction.

No vehicle shall be pushed or assisted by anyone other than its occupants under penalty of disqualification, except that the penalty for a vehicle being towed in any period shall be disqualification for that period.

Contestants shall be responsible for any violation of law and for all civil and criminal penalties. Contestants must comply with the traffic regulations of the local police. If a contestant fails to stop his vehicle on request from the driver of a frightened horse, or in any manner shows himself inconsiderate of other users of the roadway, his vehicle shall be subject to disqualification.

Contestants shall inform themselves thoroughly in regard to the route and no allowance will be made for any mistakes they may make. No contestant shall take any route other than that laid down in the official maps which will be furnished for each stage.

12.—Controls are to be officially established at the beginning of each day's run, at lunching places and at the end of each day's run. The start is to be made each morning at 8 o'clock, and an hour and a half will be allowed for luncheon. Any contestant arriving at the noon control at 12 o'clock or after will be allowed but one hour for luncheon. He will be called

RULES FOR THE ENDURANCE TEST.

one hour after the time of his arrival and his time will be counted from the time that he is called; but no vehicle will be allowed to leave the noon control before one o'clock.

The noon control will open at 11 a. m. and close at 3:40 p. m. The night control will open at 4 p. m. and remain open until 9:20 p. m. The time of arrival of each vehicle at the point of control shall be recorded by the officials at control on the record sheets, as on the record book of those in charge of the vehicle.

The site of control shall be designated by a red flag with the word, prominently printed thereon in black, "Control." This flag shall be prominently displayed on both sides of the road at the point of control. There shall be notification by means of a green flag at 200 yards in advance of the control point as a warning of the approach to the control.

Controls are to be established in the following manner:

If a green flag is displayed, the vehicle shall slow down to a speed of not to exceed eight miles per hour until a white flag is passed, when speed may be resumed as before.

On coming to a red flag, the vehicle shall come to a full stop until the driver is permitted by the steward to proceed.

At night, lanterns similarly colored may be used instead of flags.

Provision for shelter will be made at night. Vehicles may take on fuel and supplies at the noon control and at stopping places for the night, where supplies will be provided. All vehicles requiring supplies at other points will be required to make their own arrangements for the same. There shall be at each night's stopping place a storage enclosure or tent in charge of superintendent and assistants for the storage of vehicles for the night. Watchmen will be on duty during the night. Passes will be furnished to vehicles granting them admission to or exit from the official enclosure provided for the storage of vehicles at each night control.

13.—Controls are also to be established on the hill climbing contest near Little Falls, or any other place that may be

chosen by the committee. One mile from the base of the hill a yellow flag, with the letter "H" thereon, in black, will be prominently displayed at each side of the road as a warning of approach to the hill. A short distance from the base of the hill a second set of flags will be placed. The vehicles will line up in the order of their approach to the second flag, on the right side of the road, showing ten feet space between vehicles. Each vehicle will be started at a given signal by the proper officials.

The time and manner of the performance on the hill will be officially recorded. Time will also be taken on reaching the summit of the hill. This trial will be a separate contest. The time occupied from reaching the control at the base of the hill to leaving the control at the summit will be deducted from the general running time.

14.—No credit for speed exceeding 15 miles an hour will be allowed. Attention is called to the general state law covering speed, and all contestants will be required to conform thereto.

15.—Vehicles will start from the control the first morning at 8 o'clock, except in class E, which may start earlier by arrangement. At the time of starting from each control, the vehicles shall approach the starting line and take their places one behind the other in the order of their approach to the starting line, leaving a space of at least ten feet between each vehicle. As each vehicle starts, the others shall move up one place. Any vehicle failing to keep its position in the line shall fall out and go to the foot. Vehicles approaching control points shall follow the same rule as at starting points. If it becomes necessary for a vehicle to stop, it must first be driven to the extreme right of the road as nearly as practicable.

16.—The committee shall post the results of each day's run as soon as practicable, and may furnish the same to the press. Contestants shall not publish or communicate for publication any other

RULES FOR THE ENDURANCE TEST

times than those contained in the club certificate. In the event of any subsequent alteration by the committee of the records on the certificates, owing to protest or other causes, the contestant will only publish the records as amended, on pain of disqualification.

The certificates will recognize no speeds in excess of 15 miles an hour, but will, for a vehicle, state as follows: Official number, class, maker, entered by, weight, record for day of, number of passengers carried, route, distance, average miles per hour.

17.—The total distance is to be divided into stages for each day on the basis of approximately 35 miles per day. Following are the stages with the approximate distance:

First stage: Club House to Poughkeepsie, 90 miles.

Second stage: Poughkeepsie to Albany, 70 miles.

Third stage: Albany to Little Falls (including a Hill Climbing trial near Little Falls, 90 miles.

Fourth stage: Little Falls to Syracuse, 85 miles.

Fifth stage: Syracuse to Rochester, 90 miles.

Sixth stage: Rochester to Buffalo, 80 miles.

Total distance: 500 miles.

18.—All vehicles, whether electric, steam, gasoline or otherwise, shall operate in the same class, which classification shall be on the basis of weight.

19.—Vehicles shall be divided into the following classes: All four-wheeled vehicles to carry two or more persons. Three-wheeled vehicles carrying two passengers side by side and conforming in all other respects to four-wheeled vehicles, to be provided for by special arrangement in classes A or B.

Class A.—Under 1,000-pound class: Four-wheeled motor vehicles weighing under 1,000 pounds, in commercial running and operating condition, with all tools, fuel and supplies on board.

Class B.—1,000 to 2,000-pound class:

Four-wheeled, motor vehicles weighing 1,000 and less than 2,000 pounds, in commercial running and operating condition, with all tools, fuel and supplies on board.

Class C.—2,000-pound and over class: Four-wheeled motor vehicles weighing 2,000 pounds or over, in commercial running and operating condition, with all tools, fuel and supplies on board.

Class D.—Motor cycle class: Motor bicycles, motor tricycles and motor quadricycles.

20.—The conditions of this endurance test shall be average speed for the six days, and any competitor falling below an average of eight miles an hour (except in class E) for any one period, shall not receive any credit for that period.

21.—Certificates shall be awarded by the club as follows: First class certificate, average speed from 12 to 15 miles per hour. Second class certificate, average speed from 10 to 12 miles per hour. Third class certificate, average speed from eight to 10 miles per hour.

22.—Public Delivery Vehicles shall be classed as follows:

Class E.—Light delivery: Load not less than 500 pounds, exclusive of operators, fuel and water, 10 to 12 miles an hour for first class certificate; eight to 10 miles an hour for second class certificate; six to eight miles an hour for third class certificate.

Heavy delivery: Load to be not less than one-half rated capacity. Minimum to be not less than 1,500 pounds. Eight to 10 miles an hour for first class certificate; six to eight miles an hour for second class certificate; four to six miles an hour for third class certificate.

Trucks: Load to be not less than one-half rated capacity. Minimum load to be not less than 3,000 pounds. Six and one-half to eight miles per hour for first class certificate; five to six and one half miles per hour for second class certificate; three and one-half to five miles per hour for third class certificate.



IN THE WORLD OF INVENTION



Letters patent No. 677,177, dated June 25, 1901, to Robert A. Cordner, of London, Eng.

While this patent relates primarily to a two-speed gear it also covers a variation, wherein the two-speed arrangement is omitted and is merely utilized as a free wheel clutch. In the drawings the two-speed arrangement is shown. Figure 1 is a longitudinal section through the rear hub and axle, showing the hub with two driving members. These members are shown as sprocket wheels and are freely rotative on the hub being held in place against lateral movement by suitable collars. These sprocket wheels are adapted to be alternately coupled to the hub by a clutch, shown in its intermediate or ineffective position. This clutch consists of a ring or collar, slidable on the hub and having on its faces oppositely disposed teeth adapted to enter holes or slots in the adjacent faces of the sprocket wheels. While the clutch ring is freely slidable on the hub it is rotary therewith, being seated on a polygonal portion of the hub as is also the operating mechanism on the opposite end. Thus by an axial movement of the clutch either of the sprocket wheels may be rigidly coupled to the hub and become the member through which it is driven, while if it is left in an intermediate position both sprockets will be detached, giving in effect a free wheel.

For operating the clutch, a disk is shown, having an annular flange, a development of which is shown in figure 2. This disk is fixed, a convenient method being to secure it in place by threading to the bearing cone which is in turn secured to the axle and frame in the usual manner. A peripherally grooved collar is slidably fitted to the hub and connection

is made between this and the clutch member at the other end of the hub by means of a number of small rods which pass through properly arranged perforations in the intervening portions of the hub. The peripheral groove in this collar forms the inner portion of a ball race, the outer portion of which is made up of two parts so threaded together as to allow of adjustment of the bearing. One portion of this outer collar fits internally the flange of the fixed disk and has a series of outwardly extending pins fitting into a corresponding number of diagonal slots in the flange as shown in figure 2. This collar thus assembled, with the bearing balls in place, has a button or projection adapted to be connected with a suitable actuating means (not shown) by which to turn the casing in the flange and as it turns it will be caused to move sideways, by means of its pin and slot connection with the flange, and thereby correspondingly actuate the clutch so that it can be slid into or out of engagement with either sprocket wheel or left in an inoperative position as desired.

The driving mechanism forms no part of the invention, but as shown in the illustration, it is proposed to drive by means of two sprockets of differing sizes adjacently located on the same shaft and connected by suitable chains to the sprocket wheels on the hub.



FLEXIBLE CYCLE FRAME

Letters patent No. 877,079, to Jacob H. Gulley, of Saginaw, and Jas. H. Pierse and Jas. E. Wright, of West Bay City, Mich.

The object of this invention is to provide a flexible or spring frame for bicycles without greatly altering the con-

struction of the bicycle frame as ordinarily built. To this end means are provided for a vertical motion of the seat and pedals so that the crank hanger will always move on the arc of a circle concentric with the hub of the rear wheel. The illustration, figure 3, shows the rear portion of a bicycle frame fitted with this device. To provide for the vertical motion the crank bracket is separate from the main portion of the frame, being connected to two vertical tubular members which are pivotally attached at their upper ends to a collar clamped around the seat post. This seat post is not clamped in the frame in the usual manner, but is slidably fitted to the seat mast and rests on a helical spring enclosed within this frame tube. To hold the bottom bracket against lateral movement and in its proper relation to the rear wheel two similar stays are provided which are pivotally attached to the rear axle. In order to provide for proper tension in the chain a double threaded union is placed near the rear end of each of these stays.

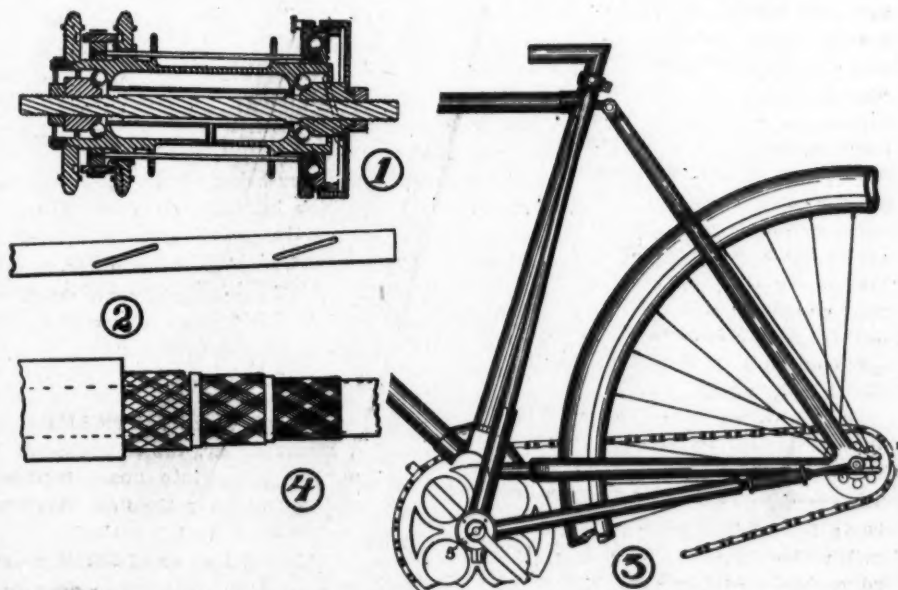
It is proposed that this device may be attached to any bicycle frame by merely cutting away the lower and laterally extending portions of the usual bottom bracket and by any suitable means clos-

ing up the lower end of the seat mast in order to provide a seat for the helical spring.

TILLINGHAST'S FABRIC

Letters patent No. 677,290, dated June 25th, 1901, to Pardon W. Tillinghast, of Edgewood, R. I.

This invention relates to the construction of the fabric used in the building up of a pneumatic tire. As set forth in the specifications there are two particular features in the manufacture of a tire under this patent. The first lies in the construction of a fabric so woven that when vulcanized between two layers of rubber the rubber will be joined through the openings of the weave, thus making up a solid mass of rubber with the threads entirely embodied therein. The other point applies particularly to where a plurality of layers is used in the making up of the tire. In this case it is proposed that each successive ply or layer be of a more open weave or construction than those preceding. It is not, however, necessary that each successive ply of fabric be of more open construction than its immediate predecessor, as two or more plies of similar construction may be used



THE PATENT DRAWINGS OF THE WEEK.

FROM THE FOUR WINDS.

successively, but in a general way the weave of the fabric should be coarser as it becomes further from the center of the tire. Woven, wound or other fabric may be used, but the patentee particularly disclaims and abandons all title to a tire composed of rubber and fabric, the fabric being tightly woven, but having rows of perforation therein extending parallel to the warp and weft thereof and also to a tire composed of rubber and fabric, the fabric of which has its warp and weft threads so laid as to form rectangular blank spaces therein. A general idea of the make up of this tire may be gained from the illustration, figure 4.

در

PORTABLE CYCLE SUPPORT

Letters patent No. 677,080, dated June

25th, 1901, to Friedrich Heintz, of New York.

It is a periodical event for some hard working inventor to bring forth some fearful and wonderful construction in the way of a portable bicycle support. The one on which Mr. Heintz has spent his good money and consumed the midnight oil is a little worse than many of its predecessors. According to the illustrations accompanying the patent it looks like a hay tedder, or the rear elevation of a mammoth rat trap. In general it consists of an A-shaped arrangement of wires, tubes, etc., located over the rear wheel and suspended from the seat post in such manner that on dismounting it can be let down so that the lower extremities will rest on the ground at each side of the machine.

ELECTRIC APPROACHES A CENTURY

For metropolitan use and within reasonable distance of charging stations electric carriages are, in many respects, nearer ideal than those equipped with any other power. To build a mass of batteries and machinery and run it over a mile or so of smooth road at terrific speed, as was done by Jenatzy when he covered a mile in 61.4-5 s., is of course valueless from a practical standpoint, but what is of real consequence is the test of a vehicle which, under normal conditions, can be relied upon to cover 60 to 70 miles on one charge at a uniform rate of speed of 12 to 15 miles an hour.

At a recent date an electric carriage of English manufacture covered 94½ miles. This vehicle, which is fitted with large pneumatic tires, is of the Krieger type, in which a pair of motors drive the front wheels. These motors are so wound that they can be used either as series, shunt, or compound machines. The controller gives six speeds forward and also serves for reversing. The battery, of fifty cells, is divided into two parts, one being placed underneath the seat and a forward casing containing the other part. The weight of the vehicle in running or-

der is 4,368 pounds, of which 2,464 pounds represents the weight of the battery.

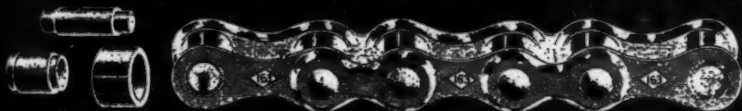
The capacity of the cells is given as about 250 ampere hours and the rate of discharge during the run averaged 25 to 30 amperes with a maximum of about 50. The results, which were given in detail, are regarded by the manufacturers as eminently satisfactory.

The total mileage covered from the start at Lambeth to the finish at the automobile club, Whitehall Court, was 82½ miles, 12 miles being afterward added by a run which brought the vehicle to the original starting point. The outward journey was covered in 3 h. 36 m., the return journey taking 3 h. 31 m. In both cases slow time was necessary for a long distance owing to the course being over a road in which the traffic was extremely heavy, and therefore, although the batteries were tested under normal conditions of street traffic, the average speed could not be taken into account under such conditions. After the first 10 miles, however, the road was practically clear and from this point a run of 29 miles was made in 2 h. 28 m.

The run, both in and out, was made

Is Your Chain Satisfactory?

If not replace it with one of our No. 163 Roller Chains. They are stronger, will elongate less, and adapt themselves to a worn or dirty sprocket far better than any Solid Block Chain of the same size on the market.



Twin Roller 1-inch pitch, 5/16-inch or 3/8-inch wide, will fit sprocket cut for regular B Block pattern.

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THE GOODYEAR
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The Goodyear Tire and Rubber Co.

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LARGEST TIRE MAKERS IN THE WORLD

without stops except the necessary traffic delays. This time was effected in the face of an extremely heavy head wind which at times increased to almost a gale and must have made considerable difference in the amount of current used during the outward run. For many miles the cover the vehicle afforded was taken advantage of by a number of cyclists who hung on strenuously while those less fortunate were left hopelessly behind, struggling their hardest against the adverse circumstances.

After a run around and about Reading the return journey was started, Kew, a distance of 32 miles, being reached in 2 h. 38 m. From this point the traffic was again heavy and slow time was the natural result.

The charge given the cells before starting was 300 amperes at 135 volts. The voltage at the start was 101, which was maintained steadily on the entire outward run and at no time during the greater portion of the return journey had it fallen below 96 volts, standing at about 93 when the vehicle arrived at the club premises. The reading upon the return of the vehicle to the Lambeth works was about 80.

With the exception of a run down a hill there was no opportunity of recuperating the batteries and then for only a few minutes, so that the charge as originally taken carried the vehicle through its journey practically without the smallest help. There was no intention of attempting to establish a speed record, but to obtain a practical proof of the reliability and distance capacity of the carriage at a steady all around pace of about 12 miles per hour.

AUTO AS A LIFE SAVER

Alden L. McMurtry, president of the Adams-McMurtry Co., and a member of the Automobile Club of America, has had an interesting experience. A bicycle scorching, trying to get away from one of the bicycle policemen on Fifth avenue, ran up on the sidewalk and was thrown. He was rendered unconscious, and the police had called for an ambulance, when Mr. McMurtry came up in his Packard. He volunteered to take the injured man

to the hospital, and his offer was accepted. When he reached the hospital, the surgeon said that the quick action of Mr. McMurtry had undoubtedly saved the rider's life.

The Bell Tire Co., capital \$3,000, has been organized at New York to make vehicle tires. The directors are Mendel Presberger, of Passaic, N. J., and Maurice and M. F. Moses, of New York.

L. P. Lester, of Newton, Ks., is on the way to Walla Walla, Wash., in a home-made machine. When last heard from he was progressing without trouble.

A three-mile automobile race is to be one of the attractions at the races of the Kinwood (Pa.) Driving Club on July 11.

At the races at Arcola, Ill., this month there will be an automobile race each day.

Catalogue Department

THE MOTOR AGE has established a catalogue department and will forward the catalogues of any or all advertisers on request.

The objects of this department are as follows:

1. To save the reader the trouble and expense of writing to each individual concern whose catalogue he may need.
2. To place advertisers in direct communication with prospective purchasers.

Applicants for catalogues will please state specifically the names of the concerns whose catalogues they desire and enclose stamps to cover postage.

Applications should be addressed to the Catalogue Department, MOTOR AGE, Monon Building, Chicago.

MAYOR A GOOD FRIEND

An ordinance has been introduced at Cleveland to make excessive speed sufficient cause for the revocation of a license. To this the automobilists object strenuously. Having taken legal advice, they are informed that no one but the courts has the right to say who shall and who shall not use the roads. If the proposed ordinance passes, which is unlikely so long as Tom Johnson holds down the mayor's chair, there will be a vigorous contest.

ON THE TOLL ROADS

York, Pa., June 30.—Since the advent of the horseless carriage in York, officials of the various turnpike companies have been puzzling their brains as to the rate to be charged for riding on their roads. The officials of the York and Chanceford turnpike company have established a rate of two cents per mile for all horseless carriages. This rate was put in force several days ago. On the York and Gettysburg, Susquehanna and York borough,

York and Maryland line and York and Liverpool turnpikes the rate for such vehicles will be one cent and eight mills per mile, and will go into effect next week.

RACES FOR ALL CLASSES

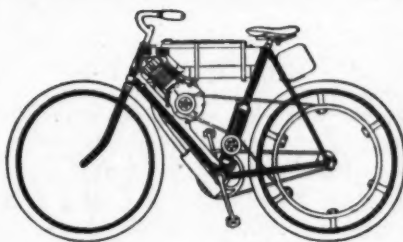
The Automobile Club of Alsace-Lorraine organized a road race from Strasbourg to Colmar and return on June 16. The course was about 155 kilometers. In the first class, for all kinds of vehicles, Varlet, on a Delahaye, won in 3 h. 01 m. Baron de Scarisbrick, on a Benz, was second in 3 h. 07 m.

In the second class for vehicles above 400 kilos, Demester won on a light Gladiator. In the third class for small vehicles, Blum on a voiturette De Dion won. A class for ladies was also run and was won by Mme. Morane on a light Delahaye.

MUST PAY DUTY

Washington, July 1.—An effort was made by the Automobile Club of America to induce the treasury department to

THE NIMBLE PENNY IS EASILY YOURS WHEN YOU HANDLE THE AUTO-BI.



H. S. Brandt, of Norristown, Pa., under date of June 5th, writes as follows:

"AUTO-BI received, set up and run to beat the band. No trouble whatever to set it up and start, except I forgot and kept the plug in my pocket on the first trial. When I put it in the machine it went off like shot off of a shovel. As this is my first attempt to set one up and start it I feel very much pleased. I had an order for it if it was satisfactory, and after a trial spin by the party he rode up and left his check and rode off with the machine. Enclosed please find my second order for another AUTO-BI, which I want quick."

This shows the bicycle dealer how he can keep his business going during the months that otherwise would be dull.

E. R. Thomas Motor Co., - - 103 Broadway, Buffalo, N. Y.

We also make the best Tricycles and Quads in the land and are selling lots of them. It doesn't take all your money to buy them.

agree to admit free of duty automobiles of tourists and racing men. Secretary Gage has decided that automobiles shall pay the duty of 45 per cent.



Whew! A St. Louis councilman has proposed to tax automobiles \$20 a year for the use of the streets and to limit their speed to six miles an hour in the city and eight in the suburbs. Truly, a man would get little for his money under such a ruling as that.

An automobile livery service is to be established at Hensall, Ont., for use between that town and the Grand Bend summer resort. Clinton and Seaforth will also adopt the automobile for summer excursion business.

Frederick W. Skinner, Reginald O. Johnson and L. L. Stephens are the incorporators of the Advance Tire Co., of Pierre, S. D., whose capital stock amounts to \$100,000.

P. A. B. Widener is about to erect an automobile stable at Elkins Station, near Philadelphia.

DIXON'S No. 635 GRAPHITE

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FOR SALE—Trimoto Automobile, gasoline, \$325. Reason for selling, not enough power to climb our steep hills. Best machine for the money for a level country. M. STAEBLER, Ann Arbor, Mich. 1

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FOUR first class salesmen to travel with a steam automobile, placing agencies and selling a line of parts and specialties. Territory includes a portion of New York state, New Jersey, Pennsylvania and New England. Must have A1 references and be able to furnish cash security for carriage. Address E. S. Motor Age 2

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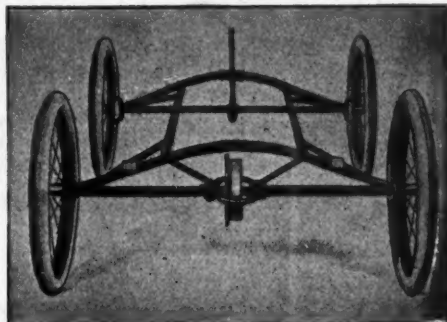
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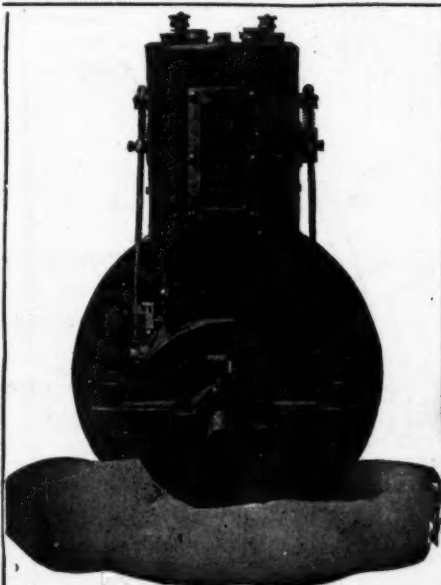
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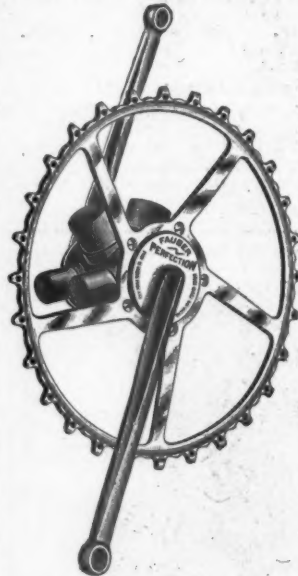
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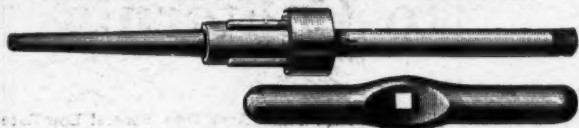
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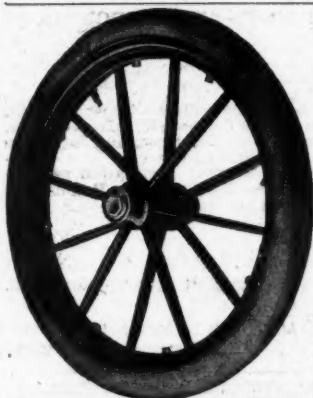


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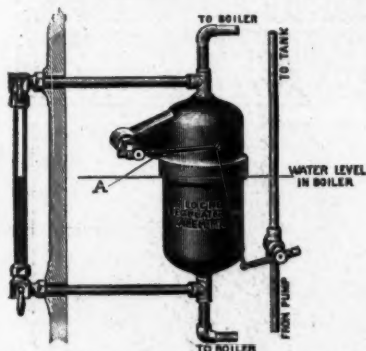
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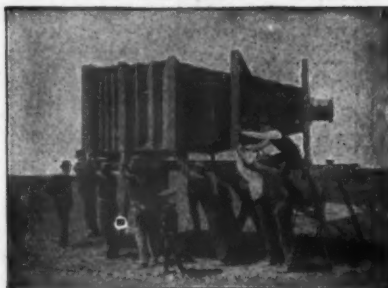
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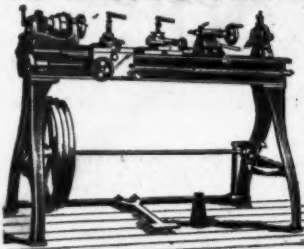
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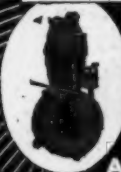
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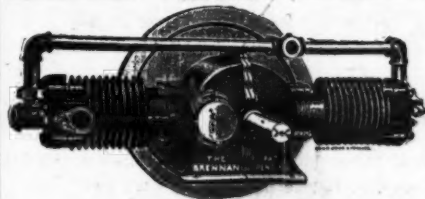
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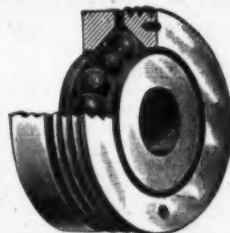
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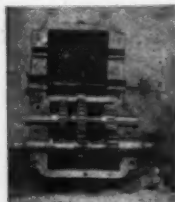
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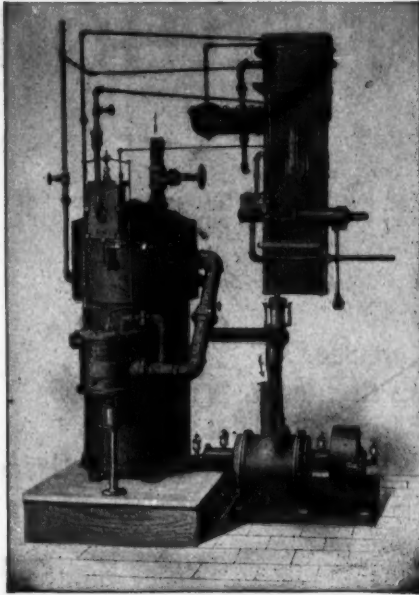
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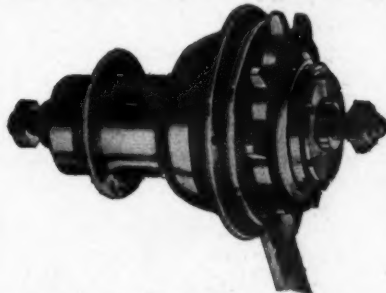
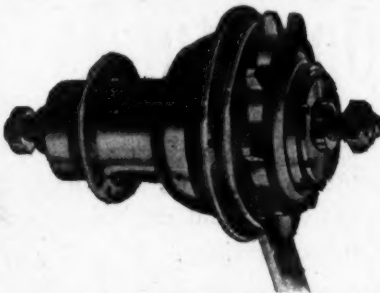
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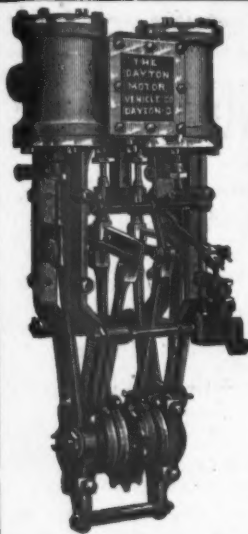
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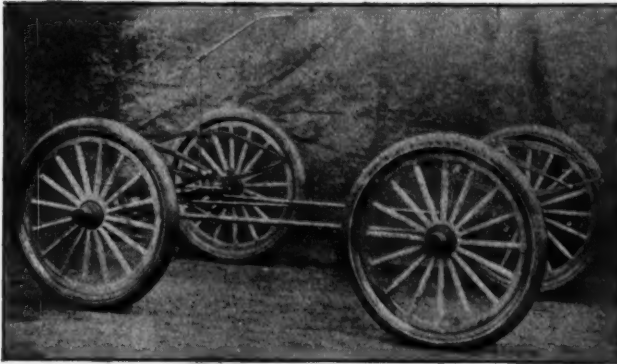
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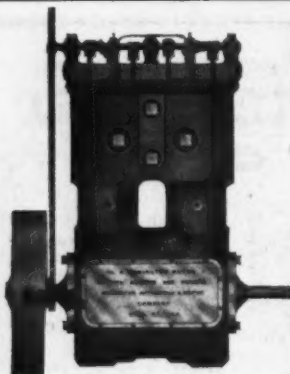
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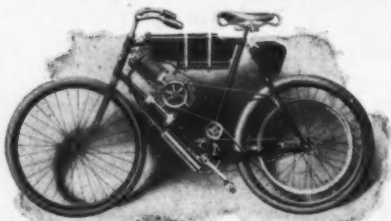
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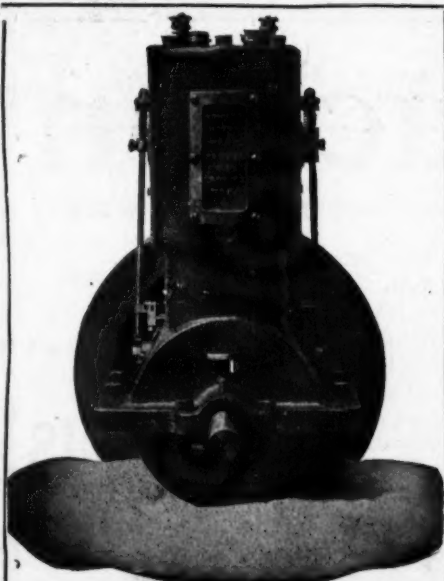
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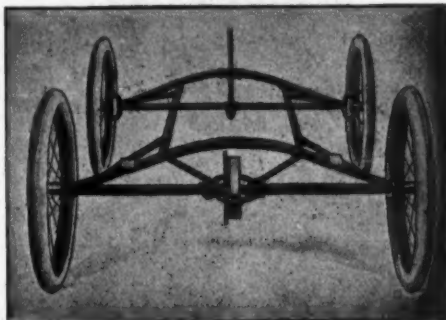
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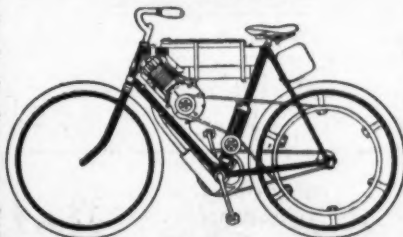
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